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AMERICAN DENTAL ASSOCIATION

AUGUST 1, 1947 • VOLUME 35 • NUMBER 3

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THE Journal OF THE
AMERICAN DENTAL ASSOCIATION

AUGUST 1, 1947 • VOLUME 35 • NUMBER 3

DENTIST-TIME REQUIRED TO PERFORM DENTAL OPERATIONS

Henry Klein,* D.DS., Sc.D., Bethesda, Md.; Melvin L. Dollar,† Washington, D. C., and Joseph E. Bagdonas,‡ Chicago

IN ORDER to plan intelligently to meet the dental needs of the Nation, it is necessary that the dimensions of the problem be defined with some degree of accuracy. As there are several factors involved in the determination of these dimensions, many of which are difficult to evaluate, the problem is not an easy one to solve. It is necessary to know the volume of need existing at any given moment, the volume of need arising each year, the public demand for dental service and the number and distribution of dentists and ancillary dental personnel, and to consider many other influencing factors involved in the problem.

One of the important factors in determining the magnitude of the problem is the acquisition of data on the amount of dentist-time required, on the average, to perform various types of dental operations. Unfortunately, there has been almost a complete lack of information on this subject.[1] In all previous studies estimates had been established tentatively with respect to the dental manpower requirements and to the costs involved in meeting the problem.[2,3] This study was undertaken, therefore, in an attempt to provide additional data.

During the spring of 1943, a survey of time requirements for dental operations was initiated in a cooperative project by the Committee on Economics of the American Dental Association under the direction of Dr. Raymond M. Walls, chairman, and by the Division of Public Health Methods, United States Public Health Service.

Approximately 1,500 practicing dentists of the United States were selected as a representative sample of the entire profession on the basis of location, size of city, membership and nonmember-

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1. Collection of material to fill this need is now actively in progress. For example, data on time per service in a children's dental clinic are given by I. Altman, Time per Service in a Children's Dental Clinic. *Pub. Health Rep.* 61:1211 (August 16) 1946.

2. Dollar, M. L., Dental Needs, Dental Demands and Dental Costs. *Illinois D. J.* 15:96 (March) 1946.

3. Klein, Henry, Dental Needs Versus Dental Manpower. *J.A.D.A.* 31:263 (February 1) 1944.

Table 1.—Percentage distribution of returned questionnaires and of patients treated, by age of dentist

Dentists' ages, years	Questionnaires		Patients	
	Number	Per cent	Number	Per cent
Less than 35	31	7.6	204	7.4
35-44	144	35.2	998	36.0
45-54	140	34.2	973	35.1
55-64	71	17.4	448	16.2
65 and more	23	5.6	148	5.3
Total	409	100.0	2,771	100.0

ship in the American Dental Association and other criteria.[4] Each of these dentists received five copies of a form designed for recording information on operative work. For operative services, the dentists were requested to use one form for each of the first 5 patient visits on a specified date; to report all work done for the particular patient in the course of the visit, and to give the exact time at which a particular operation was begun and ended. For prosthetic services, the dentists were requested to select the first 3 patients coming into their offices who were beginning a new prosthetic service. At each visit, time was recorded for each developing phase of the prosthetic operation until the case was completed.

4. For any given area, every nth name was selected from an alphabetical list of all active dentists in the area so that the final total of 1,500 was attained.

Table 2.—Returned questionnaires, by geographic areas

Areas	Number	Per cent
New England	24	5.9
Middle Atlantic	96	23.5
South Atlantic	44	10.8
East South Central	26	6.4
East North Central	78	19.1
West South Central	25	6.1
West North Central	57	13.9
Mountain	28	6.8
Pacific	31	7.6
Total	409	100.0

A little more than a fourth of the 1,500 dentists returned completed forms. The ages and geographic distribution of these dentists are shown in Tables 1 and 2. The sample returning the questionnaires is reasonably representative of the geographic distribution of dentists in the United States. However, because of the absence of the younger dentists in war service, the sample is unbalanced by an overrepresentation of older dentists. The 409 dentists reported findings on a total of more than 2,700 patients whose age distribution is shown in Table 3.

Findings

The findings of the survey will be described in terms of dentist-time required for various kinds of dental operations as affected by various circumstances such

Table 3.—Age distribution of patients treated by the 409 dentists

Age	Number of patients	Per cent of total
Less than 10	76	2.7
10-19	374	13.5
20-29	516	18.6
30-39	555	20.0
40-49	514	18.5
50-59	417	15.0
60-69	214	7.7
70 and more	35	1.3
Unknown	70	2.5
Total	2,771	100.0

as age of dentist, age of patient and use of ancillary personnel.

The dentists returning the questionnaires reported on a total of more than 8,600 operations of which roughly half were reported by dentists not employing a chair assistant, as shown in Table 4. A previous survey showed that about half the dentists employ chair assistants.[5] For this reason, the average time per operation given in this report for all dentists is computed as a simple arithmetic average of the rates for dentists with, and dentists without, chair assistants. More than 40 per cent of all operations were cavity preparations and fillings, about 20 per cent involved surgical intervention and about 10 per cent of the operations involved preparation of bridges and crowns. The percentage of cases involving each type of dental service as shown here must not be construed to be

5. Klein, Henry, Civilian Dentistry in War Time. *J.A.D.A.* 31:648 (May 1) 1944.

Table 4.—Number and percentage distribution of operations, and average dentist-minutes for specified operations, reported by 409 dentists

Operation	Number of operations			Per cent of operations			Minutes per operation[3]		
	With chair ass't	Without chair ass't	All	With chair ass't	Without chair ass't	All	With chair ass't	Without chair ass't	All[4]
Examinations and related services									
Roentgenogram (any type)	175	138	313	4.2	3.0	3.6	12.8	16.3	14.5
Examination (explorer)	303	403	706	7.3	8.9	8.1	8.9	10.9	9.9
Examination and consultation	371	429	800	9.0	9.4	9.2	13.5	16.0	14.7
Prophylaxis[1]	150	204	354	3.6	4.5	4.1	24.2	32.9	28.5
Cavity preparation[1]									
1 Surface	590	509	1,099	14.3	11.2	12.7	10.5	12.5	11.5
2 Surface	328	382	710	7.9	8.4	8.2	17.2	19.8	18.5
3 Surface	54	59	113	1.3	1.3	1.3	27.0	36.7	31.9
Fillings[1]									
Amalgam	643	617	1,260	15.6	13.6	14.5	9.0	10.8	9.9
Synthetic	243	221	464	5.9	4.9	5.4	11.5	15.6	13.5
Gold inlay	72	85	157	1.7	1.9	1.8	29.4	33.7	31.5
Gold foil	30	45	75	0.7	1.0	0.9	24.3	26.8	25.5
Surgery									
Anesthesia	242	280	522	5.9	6.2	6.0	9.9	11.8	10.9
Extraction	435	627	1,062	10.5	13.8	12.2	6.9	5.6	6.3
Postoperative treatment	34	40	74	0.8	0.9	0.9	11.3	11.9	11.6
Root canal work	25	32	57	0.6	0.7	0.7	134.4	125.1	129.7
Dentures[2]									
Upper and lower	137	158	295	3.3	3.5	3.4	196.3	206.5	201.4
Upper	66	77	143	1.6	1.7	1.6	126.7	143.1	134.9
Lower	9	20	29	0.2	0.4	0.3	144.2	138.1	141.1
Partial	84	75	159	2.0	1.7	1.8	126.6	115.5	121.1
Partial and full	23	18	41	0.6	0.4	0.5	200.6	209.3	204.9
Crowns and bridges[2]									
Removable	23	28	51	0.6	0.6	0.6	148.9	86.9	117.9
Fixed	79	82	161	1.9	1.8	1.9	189.1	186.6	187.9
Crowns	10	15	25	0.2	0.3	0.3	178.7	166.9	172.8
All services	4,126	4,544	8,670	100.0	100.0	100.0			

1. Classified as operative services.
2. Classified as prosthetic services.
3. Rates adjusted to the age distribution of the dentists in the United States according to the census of 1940.
4. Simple arithmetic average of the two categories: with and without chair assistant.

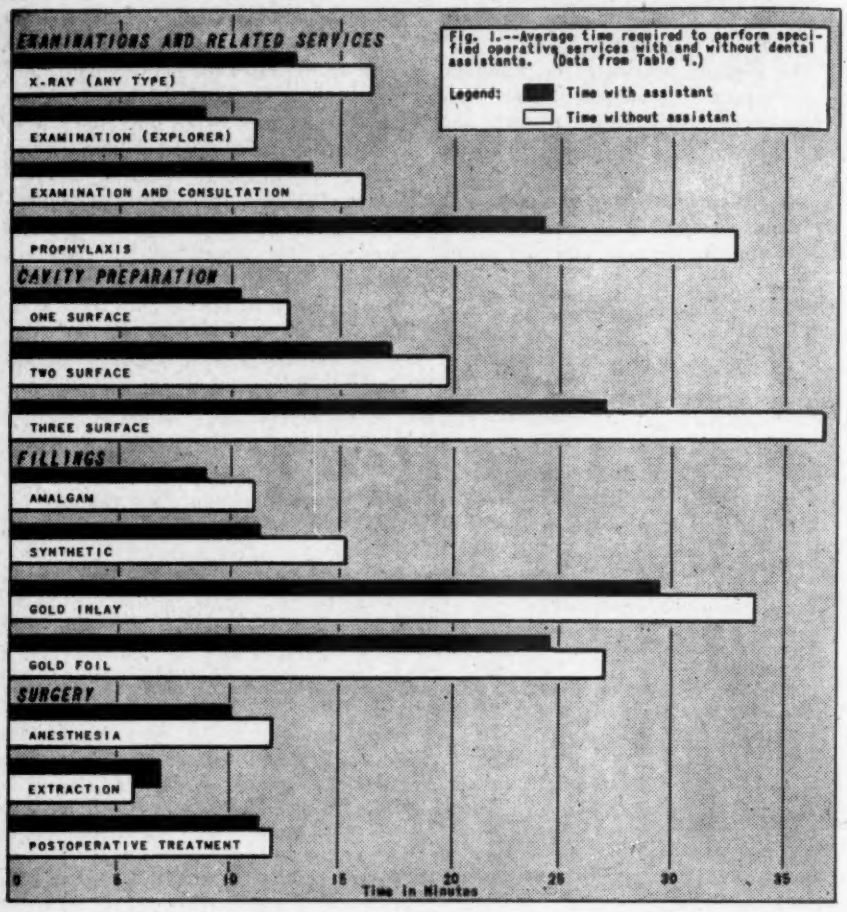


Fig. 1.—Average time required to perform specified operative services with and without dental assistants. (Data from Table 9.)

representative of the proportion of each type of case in the practice of dentistry. It will be recalled that the dentist was asked to report on five operative cases and three prosthetic cases. Because the reporting on prosthetic cases was much more difficult than the reporting on operative cases, the percentage of prosthetic reports received was smaller than the percentage for other types of cases. The remaining 30 per cent of the operations were concerned with roentgenographic studies, examinations, prophylaxis and root canal work.

Dentist-time for particular operations.[6]—As shown by the material given in Table 4, on the average, a roentgenogram of any type requires nearly fifteen minutes of dentist-time, and an explorer examination, including consultation with the patient, nearly fifteen minutes. The preparation of a one-surface cavity requires a little more than eleven minutes; a two-surface cavity, about eighteen minutes, and a three-surface cavity a little more

6. All figures given on time per operation represent only the time of dentist and do not include the time of ancillary aides or laboratory time.

than a half hour. After the cavity has been cut and prepared, the placement of an amalgam filling takes nearly ten minutes; a synthetic filling nearly fourteen minutes; a gold inlay about a half hour, and a gold foil filling about twenty-five minutes. In surgical operations, a dental anesthetic requires a little more than ten minutes of dentist-time; the extraction in itself takes about six minutes, and postoperative treatment requires about twelve minutes. A prophylaxis involves nearly a half hour, and a root canal case requires more than two hours.

In prosthetic operations, full upper and lower dentures require about three hours and twenty minutes; an upper denture alone requires nearly two hours and ten minutes, and a lower denture requires almost two hours and twenty minutes. A partial denture in one jaw requires two hours; and a partial denture in one and a full denture in the other jaw require about three hours and twenty-five minutes. A removable bridge requires nearly two hours of dentist-time, and a fixed bridge involves a little more than three hours of dentist-time.

Effect of chair assistant.—As may be observed from study of the data in Table 4, for every type of operative service the use of a chair assistant saves dentist-time. Expressed roughly, for every ten operative services of all kinds an aggregate of about a half hour of dentist-time is saved by the chair assistant.

In the performance of surgical operations, the chair assistant does not appear to save an appreciable amount of dentist-time. The same conclusion seems to apply to the various prosthetic operations. These findings are presented graphically in Figures 1 and 2.

Visits per case and dentist-time per visit.—Information on the number of visits required for the various operative services was not obtained; however, such data were collected for root canal and

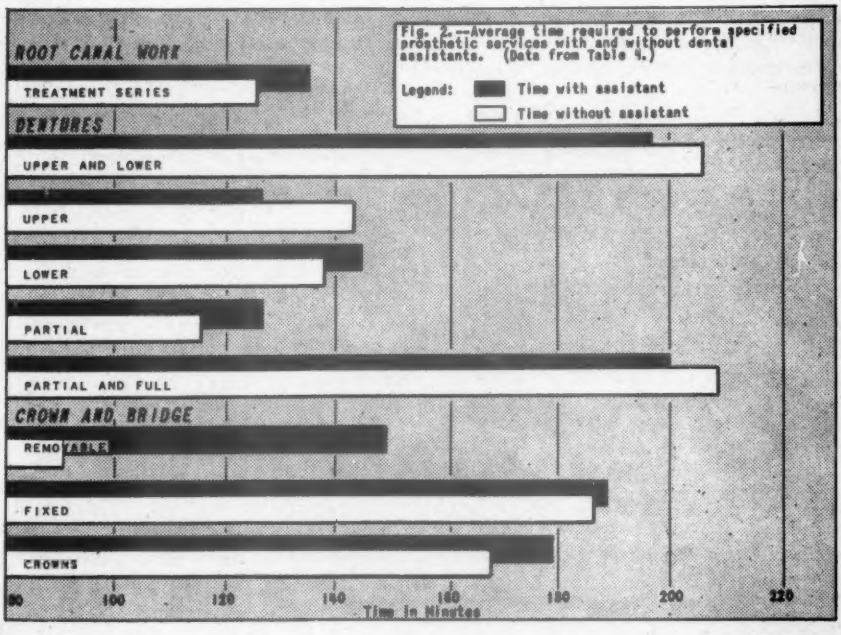


Fig. 2.—Average time required to perform specified prosthetic services with and without dental assistants. (Data from Table 4.)

Table 5.—Number of visits per completed case and dentist-minutes per visit[1] for specified dental operations, with and without use of chair assistant, based on reports from 409 dentists

Item	Chair assistant	Root canal	Dentures					Bridges			All
			Upper and lower	Upper	Lower	Partial	Partial and full	Removable	Fixed	Crowns	
Visits per completed case	With	4.2	5.0	4.4	4.5	3.5	4.6	3.4	3.5	2.5	4.2
	Without	3.6	4.9	4.3	3.9	3.5	6.1	2.8	3.6	3.0	4.2
	All[2]	3.8	4.9	4.4	4.2	3.5	5.4	3.1	3.6	2.8	4.2
Dentist-minutes per visit	With	32.6	39.4	29.1	31.6	36.3	43.2	40.8	54.5	73.6	39.7
	Without	33.7	42.0	34.5	35.9	33.0	34.7	31.2	52.3	55.6	47.7
	All[2]	33.2	40.7	31.8	33.8	34.7	39.0	36.0	53.4	64.6	40.8

1. Rates adjusted to take account of age distribution of dentists as of 1940 census.
2. Simple arithmetic average of the two categories: with and without chair assistant.

prosthetic operations. As shown in Table 5, a root canal case requires for completion about 4 visits, each visit requiring approximately thirty-three minutes. An upper and lower denture case requires nearly 5 visits, averaging a little more than forty minutes per visit. An upper denture, on the average, involves 4.4 visits of approximately thirty-two minutes each, and a lower denture requires 4.2 visits of approximately thirty-four minutes each. A partial denture in one jaw requires 3.5 visits at about thirty-five minutes per visit, and a partial denture in one jaw and a full denture in the other jaw require about 5 visits at ap-

Table 6.—Average number of dentist-minutes[1] required to complete specified types of dental operations by age of dentist and age of patient, with and without use of chair assistant

Dental operations[2]	Chair assistant	Age of dentist				Age of patient						
		Less than 35	35-44	45-54	55 and more	Less than 10	10-19	20-29	30-39	40-49	50-59	60 and more
Operative	With	13.5	14.3	15.5	18.9	8.7	14.2	16.4	15.5	20.2	20.0	15.1
	Without	15.1	19.2	18.8	20.3	10.7	17.7	18.6	19.8	21.4	21.4	15.8
	All	14.3	16.8	17.2	19.6	9.7	16.0	17.5	17.7	20.8	20.7	15.5
Prosthetic	With	198.7	139.0	165.6	166.4	.....	162.3	141.4	163.7	153.0	164.1	168.6
	Without	125.2	169.1	156.8	136.7	.....	134.3	133.8	135.9	190.6	149.4	165.1
	All	161.9	154.1	161.2	151.6	.....	148.3	137.6	149.8	171.8	156.8	166.9

1. All rates are simple arithmetic averages of time for each operation as given in Table 4.
2. Excludes root canal work.

Table 7.—Average number of dentist-minutes required per visit and number of visits per completed case[1] for prosthetic work (including root canal operations) by age of dentist and age of patient, with and without use of chair assistant

Item	Chair assistant	Age of dentist				Age of patient						
		Less than 35	35-44	45-54	55 and more	Less than 10	10 19	20-29	30-39	40-49	50-59	60 and more
Dentist-minutes per visit	With	38.9	36.0	41.1	45.3	.....	59.1	55.5	61.6	51.0	52.0	38.7
	Without	36.0	46.0	52.4	55.3	.....	50.3	65.6	62.6	48.2	42.8	48.8
	All	37.5	41.0	46.8	50.3	.....	54.7	60.6	62.1	49.6	47.4	43.8
Visits per completed case	With	4.3	4.3	4.4	3.4	.....	3.7	3.8	3.7	4.1	4.0	4.5
	Without	4.4	4.6	4.1	3.3	.....	3.2	3.6	3.5	4.4	4.7	4.4
	All	4.4	4.5	4.3	3.4	.....	3.5	3.7	3.6	4.3	4.4	4.5

1. All rates are simple arithmetic averages of time for each prosthetic operation.

proximately forty minutes per visit. A removable or fixed bridge involves about 3 visits for completion, the former requiring thirty-six minutes per visit, and the latter more than fifty minutes per visit. Crowns require 2.8 visits at more than one hour per visit.

Age of dentist and age of patient. — Dentist-time required to complete operative services is related to the age of the dentist and to the age of the patient, as shown by the data given in Table 6. The younger dentists complete an operative service, on the average, in shorter time than the older dentists. Those dentists who are under 35 years of age require about fourteen minutes per operative service (13.5 minutes with a chair assistant and 15.1 minutes working alone), and a dentist 55 years or older requires about twenty minutes. Dentist-time for prosthetic services is not affected consistently by age of dentist.

Except for the youngest age group of patients (less than 10 years), age of patient does not seem to have a marked effect on the time required per operative service. Age of patient, however, does seem to bear a significant relationship to dentist-time required per prosthetic service. The younger patients, those less than 40 years of age, require less dentist-time per prosthetic operation than do patients more than 40 years of age. This finding probably indicates that patients more than 40 years of age present prosthetic problems of a more complex character than do patients less than that age.

For prosthetic services and root canal operations considered together, visits required per completed case are slightly reduced in number as dentists' age increases (see Table 7). However, this phenomenon is balanced by the finding that dentist-time per visit increases consistently with advancing age of dentists.

Age of patient affects inversely the number of visits and time per visit. The number of visits required per case increases more or less consistently with age of patient, and dentist-time per visit tends to decrease as age of patient advances. Patients 20 to 29 years of age require 3.7 visits per completed case, averaging nearly one hour per visit, and patients 60 years or older require 4.5 visits at a little less than forty-four minutes per visit per prosthetic service.

It is not intended in this article to make application of these findings to specific situations nor to draw conclusions with regard to program planning. Rather, it is intended simply to make these data available to people working in the field of health program planning. We propose in a subsequent paper, to be released soon, to apply the findings regarding the dentist's time requirements for various operations to estimates of the prevailing dental needs among adults. Adult needs will be based on the findings of the Committee on Economics[7] of the American Dental Association.

7. Wells, R. M.; Lewis, S. R., and Dollar, M. L., *A Study of the Dental Needs of Adults in the United States*. Chicago: American Dental Association, 1940.

A REPORT OF DENTAL CARE UNDER THE COLORADO PROGRAM FOR EMERGENCY MATERNAL AND INFANT CARE

Robert A. Downs,* D.D.S., Denver

THE following report was prepared in the belief that many persons would be interested in the demands for dental care and the amount and type of dental care required by patients accepted under the Colorado Emergency Maternal and Infant Care Program.

For purposes of this study the case records of 7,000 consecutive patients accepted for maternity care under the program were reviewed. Of these 7,000 women eligible for dental care under the Colorado plan, only 230, or approximately 13 per cent, applied for and received dental care.

The type of dental care received by these 230 persons is shown in Table 1. Under the Colorado plan the following dental care is provided: silver, amalgam and silicate cement fillings; extractions; roentgenograms; treatment for Vincent's infection, and prophylaxis. There is no provision for bridges, partial or full dentures and gold work. Table 2 presents further data on the number of restorations made and Table 3, on the number of extractions performed, under this program.

The average age of these patients was 24.386 years. Their dental needs varied widely; 1 patient required examination only, and 1 required twenty-five different restorations. For the dental care provided these 230 patients, dentists were paid

*Director of dental health, Colorado Division of Public Health.

Table 1.—Type of dental care received by 230 persons under Colorado Emergency Maternal and Infant Care Program

Type of care	Persons receiving care	
	Number	Per cent
Restorations, one or more	195	84.8
Prophylaxis, one or more	177	77.0
Roentgenograms (one to full mouth)	84	36.5
Extractions, one or more	70	30.4
Treatment for Vincent's infection	15*	6.5
Examination only	1	....

*Five persons (less than 0.05 per cent) received treatment for Vincent's infection only.

Table 2.—Number of restorations made, listed according to individual teeth

Tooth	Total	Right	Left
Maxillary:			
Central incisor	62	31	31
Lateral incisor	60	31	29
Cuspid	37	19	18
First bicuspid	67	35	32
Second bicuspid	63	34	29
First molar	129	61	68
Second molar	123	56	67
Third molar	25	15	10
Total	566	282	284
Mandibular:			
Central incisor	4	1	3
Lateral incisor	1	0	1
Cuspid	8	3	5
First bicuspid	32	17	15
Second bicuspid	56	25	31
First molar	107	48	59
Second molar	106	51	55
Third molar	50	24	26
Total	364	169	195

Table 3.—Number of extractions performed, listed according to individual teeth

Tooth	Total	Right	Left
Maxillary:			
Central incisor	3	1	2
Lateral incisor	7	3	4
Cuspid	4	2	2
First bicuspid	6	4	2
Second bicuspid	7	4	3
First molar	11	5	6
Second molar	14	6	8
Third molar	33	17	16
Total	85	42	43
Mandibular:			
Central incisor	4	2	2
Lateral incisor	1	1	0
Cuspid	1	0	1
First bicuspid	5	3	2
Second bicuspid	7	5	2
First molar	15	8	7
Second molar	13	5	8
Third molar	21	11	10
Total	67	35	32

$4,504, the average cost per patient being $19.58. Individually this cost varied from a low of $2 to a high of $94 (fees set according to the former fee schedule of the U. S. Veterans Administration).

Obviously there is still much to be done in dental education to inculcate the desire for regular dental care among the population as a whole. It is apparent from this study that most physicians did not recommend a dental examination to patients accepted for maternity care. From the examination of these records it was found that obstetricians were far more conscious of the importance of dental hygiene than were the general medical practitioners. — *State Office Building.*

Veteran Population.—The veteran population of the United States on August 31 was 17,499,000, according to a Veterans Administration report, which revealed also that there were about 13,538,000 World War II veterans and about 3,961,000 veterans of World War I and other years. During the last week of the month 104,664 veterans were being rehabilitated as disabled veterans under Public Law 16; 1,145,643 were receiving education and on-the-job training under Public Law 346, and 2,067,740 veterans were listed as receiving disability compensation and pensions.—"The Veteran Population." *J.A.M.A.* 132:*338 (October 12) 1946.*

MAXILLOFACIAL PROSTHETIC PROBLEMS IN PATIENTS WITH CANCER

Ralph S. Lloyd, D.D.S., and Ralph R. Braund, M.D., Baltimore

In the treatment of cancer of the head and neck, defects are encountered which not only are unsightly but also affect the nutritional and emotional condition of the patient. Although the disfigurement often can be corrected by plastic surgery, this is not advised sometimes until sufficient time has elapsed to make certain the patient is free of disease. Other defects are of such nature that repair by plastic surgery may not be feasible. Since disfigurements cannot be covered with clothing, the patient secludes himself from public scrutiny.

Both reparative surgery and maxillofacial prosthesis have been used for centuries in the repair of defects due to disease or congenital deformity of the oral cavity, face and head. Experience has confirmed the benefits of coordinating the activities of the surgeon and the maxillofacial prosthodontist. Kazanjian[1] has emphasized this point. The two services were not integrated in their objective until recently. As a result of the casualties of the two World Wars, much progress in the methods of restoration has been made.

Many dental problems arise in the treatment of tumors of the head and neck, especially in maxillofacial prosthesis. The maxillofacial prosthodontist attempts to restore the defects of the oral cavity, face and head by mechanical means. Temporary appliances may be constructed to maintain the facial contour and continuity of the oral cavity. Temporary intra-oral appliances aid in swallowing, thus conserving or improving the nutritional status of the patient. This point cannot be overemphasized since it allows the patient to be an accepted member of society and not a recluse. If the patient is the breadwinner of the family, it solves an economic problem. The easy removal of the prosthesis permits periodic examination of the tissues for evidence of residual disease.

The maxillofacial deformities may be classified under three groups:

1. Maxilla
   a. Partial resection of maxillary bone
   b. Total resection of maxillary bone
   c. Partial or total resection of soft palate
2. Mandible
   a. Partial mandibular resection
   b. Total mandibular resection
3. Face
   a. Loss of portion or all of the nose
   b. Loss of an ear
   c. Loss of portion of the cheek tissue
   d. Loss of an eye and surrounding tissue

Defects of the Maxilla

The treatment of tumors in the region of the maxilla may require surgical resection. The resulting deformity may be minor, or it may result in the loss of the entire maxilla. This of course means that the alveoli and the hard palate are lost, and that there is a wide communication between the oral and nasal cavity. Obturators can be con-

Tumor Clinic, National Cancer Institute, U. S. Public Health Service.

1. Kazanjian, V. H., Dental Prosthesis in Relation to Facial Reparative Surgery, *Surg., Gynec. & Obst.* 59:70 (July) 1934.

structed which will minimize or obliterate this opening. The treatment of tumors in the maxillary region and nasopharynx may involve a portion or even all of the soft palate. Obturators similar to those constructed for congenital defects are used. These prove more successful than obturators for congenital clefts since the patients have normal speech habits and know how to swallow normally.

The type of obturator selected for construction is dependent upon the state of the oral tissues. Kazanjian[1] and Olinger[2] have described in detail some of the many types of obturators. Methyl methacrylate acrylic resin has been of great help in the construction of obturators because of its adaptability and lightness in weight.

The technic for obtaining the impression seems to cause the greatest concern among dentists. The first impression should be concerned only with the remaining normal hard palate and teeth. If the defect is in the hard palate, it is filled almost completely with a moist gauze pack. If the defect is in the soft palate, it is disregarded except to make sure that no impression material gets into the throat. Hydrocolloid is used in making the impression. When a satisfactory impression is obtained, a model is poured. The retaining skeleton then is constructed, and the baseplate is adapted to the outline of a normal denture. The corrected impression is taken on the baseplate. The original model is sawed so that the baseplate and new impression can be seated on the model. Additional stone is poured onto the old model and around the new impression completing the working model. The technic is the same in the fixed obturator type of appliance for soft palate defects. Olinger[3] devised a two part impression technic which is ingenious. Either method may be used.

2. Olinger, N. A., and Axt, E. F., Surgical Prosthetics of Oral and Facial Defects. *Am. J. Surg.* 31: 24 (January) 1936.

3. Olinger, N. A., Surgical Prosthesis. *Am. J. Orthodont. & Oral Surg.* (Oral Surg. Sect.) 28:922 (April) 1942.

Defects of the Mandible

Mandibular defects resulting from the treatment of primary malignant bone tumors or bone secondarily invaded by cancer usually are those resulting from a partial or total jaw resection. Treatment of cancer of the floor of the mouth and mandibular alveoli offers some unusual problems. Cancer in these sites treated by radiation may be followed by exposure of the mandible and eventually by osteoporosis, necrosis and osteomyelitis. It is a recognized rule that when cancer invades the mandible the bone must be widely resected. The mandible is divided anteriorly to the involved area and the diseased portion disarticulated and removed. The remaining fragment is pulled downward and inward and is rotated by muscle traction which results in loss of control of the movements of mastication. Appliances constructed supply an artificial joint and control the movement of the remaining fragment (Figs. 1 and 2). By this means mastication of food is facilitated. There have been many ingenious designs for this type of appliance. Kazanjian[4] and Ackerman[5] have described workable designs for appliances which will restore some masticatory efficiency. The most difficult problem in the construction of this appliance is securing adequate retention of the lower portion. The circumferential type of clasp which is shown in the illustration encircles and clips around the lower dentition, but it is somewhat difficult for the patient to apply. To facilitate its use I have constructed appliances for several cases using a lingual and a Kennedy bar. On the labial side a bar is extended so that a Roach (T) clasp can be applied to the labial surface of every tooth. This is a very stable appliance, and it is easy for the patient to apply. Total jaw resection

4. Kazanjian, V. H., Jaw Reconstruction. *Am. J. Surg.* 43:249 (February) 1939.

5. Ackerman, A. J., in Pack, G. T., and Livingston, E. M., *Treatment of Cancer and Allied Diseases.* New York: Paul B. Hoeber, Inc., 1940, 29:508.

Fig. 1.—Left mandible has been divided at mental foramen and disarticulated. The prosthesis has a continuous clasp around the lower teeth which hinges at the right bicuspid and clasps at the left cuspid. A bar connects the upper denture and lower jaw. It is attached to the lower denture by a hinge joint and to the upper denture by a ball and socket joint

is a rather hopeless problem for the maxillofacial prosthetist, and the only alternative is for the plastic surgeon to attempt a bone graft.

Facial Defects

Approximately one third of all cancers are of the skin, particularly those surfaces exposed to sunlight. This means that the majority of skin cancers are on the face and neck.

The rigorous treatment of cancer may destroy a portion or all of the nose. Nasal reconstruction from artificial substances is quite successful. Many materials have been used for the construction of nasal prostheses. Bulbulian[6] and Clarke[7] pioneered apparently at the same time in the use of latex rubber for this purpose. Munson and Heron[8] believe that acrylic resin can be used with greater advantage than latex rubber in the construction of nasal prostheses. Our experience proved both materials to be successful. However, we believe that we obtained the best results in using acrylic resin both of the rigid and of the plastic type. Experiments are being made with other synthetic resins which show promise. It is our opinion that it is better to obtain the model for the nose from another person of similar proportion unless the worker possesses exceptional ability as a sculptor. A wax model of the nose can be softened in warm water and gently adapted to the case. Care should be taken to preserve the skin texture in the wax since it is virtually impossible to duplicate in wax. Failure to preserve the skin texture may mean the difference between a natural looking appliance and an artificial looking one. Nasal prostheses are usually successful since the nose is easily reproduced and the means of retention are good. Adhesive tape or spectacles may be used for retention.

The loss of all or a portion of an ear from cancer or trauma is frequent. Prosthetic ears, though greatly appreciated by the patients, are rather difficult to make and color properly. Reconstruction of ears by means of plastic surgery is also difficult. Our most trying case was one in which the patient lost both ears as a result of cancer causing partial deafness and requiring the incorporation of a hearing aid in his prosthesis.

It may be necessary to sacrifice large

6. Bulbulian, A. H., An Approved Technic for Prosthetic Restoration of Facial Defects by Use of Latex Compound: A Further Detailed Description of the Technic Used. *Proc. Staff Meet., Mayo Clin.* 14:721 (November 15) 1939.

7. Clarke, C. D., *Molding and Casting, Its Technic and Application*. Baltimore: John D. Lucas Company, 1938, p. 208.

8. Munson, F. T., and Heron, D. F., Facial Reconstruction With Acrylic Resin. *Am. J. Surg.* 53:291 (August) 1941.

portions of the cheek in the treatment of cancer of the face, but restoration is possible by means of artificial substances. Should the tumor invade the orbit, complete removal of the orbital contents together with the surrounding soft tissue may be necessary. Construction of permanent prostheses for this type of defect is necessary since plastic surgery has little to offer. In our experience an artificial glass eye with methyl methacrylate replacing the lids and cheek tissue has proved most satisfactory. Spectacles usually are unnecessary for retention, but are helpful in producing a more esthetic appearance.

During the past four years we have had 55 cases in which some type of prosthesis was necessary, either as a temporary or permanent measure. The 6 cases included in this report will illustrate some of the problems encountered and their management.

Case 1.—A 65 year old white man, admitted to the Tumor Clinic on August 28, 1941, complained of a lump under his left eye.

History.—Eight years prior to admission he noticed a small lump on the lower left eyelid which continued to grow slowly. He consulted a physician one year prior to admission and the lesion was burned with acid. Temporarily there was slight improvement which was followed by rapid increase in the size of the tumor.

Examination.—The lower left eyelid was completely everted, with the central portion missing. Situated within the membrane of the lid and attached to the underlying infraorbital ridge was a tumor about 1.5 cm. in diameter. It extended upward above the infraorbital ridge for a distance of .75 cm. and inward to involve the orbital soft tissue. Biopsy showed basal cell carcinoma (Fig. 2, left).

Treatment.—On September 21, 1941, under general anesthesia, the orbit was exenterated together with the roof of the maxilla and a safe margin of normal tissue around the tumor. Healing was by secondary intention leaving the imperfection seen in Figure 2, center. The patient complained of considerable pain postoperatively which was relieved when a large antral polyp was removed and better drainage established into the nose. He was fitted with the prosthesis shown in Figure 2, right, which was constructed from methyl methacrylate.

Case 2.—A 23 year old seaman was admitted to the Tumor Clinic on November 14, 1945, because of a recurrent tumor in the right orbit.

History.—In April, while on leave, the patient noted that his right eye was swollen, and that the upper lid did not function normally. By June he noticed pain above the eye, tear-

Fig. 2.—Case 1.—Left: Basal cell cancer of lower eyelid involving the orbit and adjacent soft tissues. Center: Postoperative appearance of Case 1 showing large defect communicating with left antrum. Right: Prosthesis constructed of methyl methacrylate. Glass eye is incorporated in the prosthesis

ing and blurring of vision. On July 25 he entered a hospital in California, and a tumor was removed from the lacrimal gland. This was followed by complete relief of symptoms. Six weeks after surgery his symptoms reappeared, and he was sent to our Clinic.

Examination.—The right eye was found to be approximately 7 mm. lower than the left eye with slight proptosis (Fig. 3, left). A well-healed surgical scar extended transversely along the upper eyelid. Palpation above the globe indicated a nodular tumor mass that filled the upper and outer portions of the orbit. There was excessive lacrimation. Motion was limited vertically and laterally. Vision of right eye was 20/50 plus; left eye, 20/15. Peripheral fields were constricted except in the inferior temporal region.

Treatment.—On November 26, 1945 under general anesthesia an incision was made in the conjunctiva along the lid margins. The edges of the lids were cut away to destroy the hair follicles. The bony edge of the orbit was exposed and the periosteum incised. With a periosteal elevator the periosteum and orbital contents were mobilized on all sides. By gentle traction on the orbital contents the optic nerve was exposed and cut, together with the accompanying vein and artery as they entered the orbit. The vessels were clamped and coagulated. The upper and lower lids were pushed into the orbit. The remaining defect was covered with a dermatome skin graft 0.022 inch in thickness obtained from the abdominal wall. A pressure dressing was applied and left in place for eleven days. Healing was complete on the twentieth postoperative day (Fig. 3, center). Histologically the growth was a malignant mixed tumor of the lacrimal gland. The patient was fitted with a prosthesis made of methyl methacrylate six weeks after surgery (Fig. 3, right).

Case 3.—A 70 year old white man was admitted to the Tumor Clinic August 9, 1940, complaining of an ulcer in his mouth.

History.—Eleven months prior to admission he had noted a small ulcer on the upper left alveolar ridge. Since it caused no pain, he failed to seek medical advice for six months. He then received six roentgen ray treatments by a physician. However, the size of the lesion remained unchanged.

Examination.—On the upper left alveolar ridge was an ulcerative papillary lesion measuring 5 by 3.5 cm. filling the buccogingival gutter and extending onto the buccal mucosa. The bone was exposed in the mid-portion. There was no regional lymph node enlargement. Biopsy showed squamous cell carcinoma (Fig. 4, left).

Treatment.—On August 17, 1940, under general anesthesia, the tumor with a wide

Fig. 3.—Case 2.—Left: Adenocarcinoma right lacrimal gland showing ptosis of the lid, exophthalmus and downward displacement of the eyeball. Center: Condition of orbit on 20th postoperative day following subperiosteal exenteration of orbit with immediate split skin graft. Right: Prosthesis filling orbital defect. Glasses are not attached to prosthesis

Fig. 4.—Case 3.—Left: Ulcerative squamous cell carcinoma of alveolus and hard palate. Prosthesis (center) fills the postoperative defect in hard palate of Case 3 with adhesive powders necessary for retention. Right: Left alveolar ridge and portion of hard palate have been removed

margin of normal tissue and underlying bone was excised by cautery. About two-thirds of the upper left alveolar ridge and hard palate were resected. The floor of the left antrum was removed by cutting it with a chisel. The antrum did not appear to be involved. Hemorrhage was controlled by packing with wet gauze.

Healing was by secondary intention. The patient experienced considerable difficulty in eating unless the antrum was firmly packed with gauze. On October 25 he was fitted with a prosthesis which enabled him to eat and speak normally (Fig. 4, center and right). The prosthesis was articulated to a lower denture and retained without the use of adhesive powders.

Case 4.—A 39 year old colored man was admitted to the Tumor Clinic complaining of a swelling in the roof of his mouth December 23, 1940.

History.—Three years prior to admission he had noted a small tumor the size of a match head just to the left of the mid-line in the roof of his mouth. It had slowly increased in size and for the month prior to admission had been ulcerated and painful.

Examination.—A nodular tumor 2 by 2.5 cm. was revealed at the junction of the hard and soft palate. The surface was smooth and covered by normal-appearing mucosa except for a 1.5 cm. area the center of which was ulcerated and necrotic (Fig. 5, left). Biopsy showed adenocarcinoma of salivary gland origin.

Fig. 5.—Case 4.—Left: Large adenocarcinoma of salivary gland origin involving both hard and soft palate. Center: Postoperative defect in Case 4 showing loss of large portion of hard and soft palate. Foods and liquid would be expelled through nose. Right: Prosthesis in place. The constrictor muscles of the oral pharynx and soft palate adapt themselves to the obturator on swallowing, and seal the opening between the nasal and oral pharynx

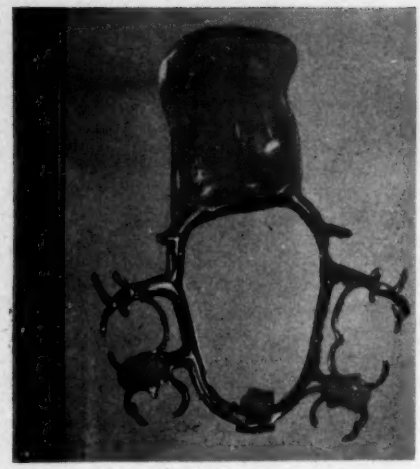


Fig. 6.—Obturator of methyl methacrylate is fixed to gold-skeleton. Prosthesis is easily removed for cleansing

Treatment.—On January 10, 1941 under general anesthesia the entire tumor together with a good margin of normal tissue was removed by cautery. It was necessary to sacrifice a large portion of the soft palate. The postoperative course was uneventful although healing was slow. Swallowing was difficult because of food entering the nasal cavity and speech was markedly impaired (Fig. 5, center).

In April, three months after operation, he was fitted with a prosthesis with which he was able to talk and to eat and swallow both liquid and solid food without difficulty (Fig. 5, right, and 6). A fixed obturator constructed of methyl methacrylate attached to a gold skeleton was used.

Case 5.—A 56 year old white man was admitted to the Tumor Clinic with a diagnosis of carcinoma of the left antrum.

History.—One year prior to admission the patient noticed that the left side of his face was swollen and that he had double vision. Three months later there was swelling of the left eyelids to such an extent that the lids would not open. Six months prior to admission he noted pain and excessive tearing.

Examination.—There was a diffuse swelling of the entire left antral region with a firm mass extending out to the malar region laterally, to the nose medially and above the infra-orbital ridge superiorly. The left eye was pushed upward and outward. The left naris was completely filled with a friable tumor mass. There was no evidence of perforation into the mouth. The regional lymph nodes were not enlarged. Biopsy showed anaplastic epidermoid carcinoma. Roentgen ray studies showed probable involvement of both the ethmoid and maxillary sinuses.

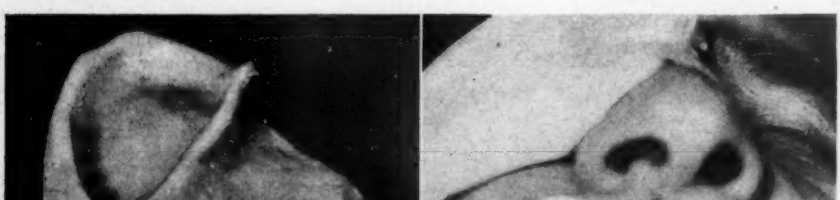


Fig. 7.—Left: Prosthesis for Case 5 (right) in which entire maxilla and orbital contents have been removed causing impairment of speech and difficulty in eating. Adhesive powders were necessary for retention

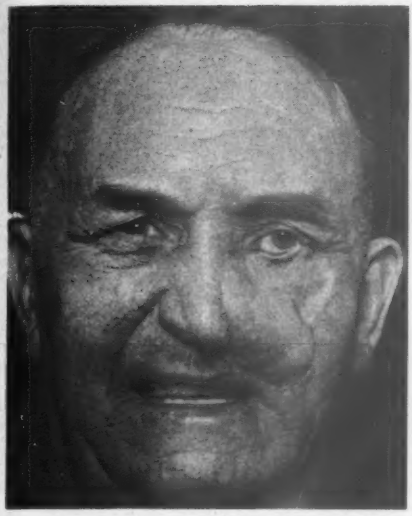


Fig. 8.—Case 6.—Graft has repaired defect produced by removal of maxilla and portions of nose and upper lip. Intra-orally the graft replaces the alveolar ridge and portion of the hard palate

Treatment.—Because of the extent of disease, radiation therapy was decided upon. There was good clinical improvement and relief of pain for only four months. Eventually the pain became so severe that resection of the antrum and orbit was decided upon as a palliative procedure. The entire left antrum was resected and the orbit exenterated on January 30, 1945. The convalescence was uneventful. The patient experienced difficulty in speaking and in eating. An upper denture and obturator was constructed which helped him to eat and to speak (Fig. 7). Adhesive powders were necessary to aid in retention.

Case 6.—A 62 year old man was admitted to the Tumor Clinic on August 13, 1943, for an extensive recurrent cancer of the nose, face and left antrum.

History.—Three years prior to admission he had a small ulcer on the inside of his nose. His physician advised him to ignore it as it would heal. Three months later the left nasal passage closed completely by the swelling which had become visible externally. He then entered a hospital in Seattle, and the lesion was locally excised only to recur in a few weeks. A second operation was performed followed by roentgenotherapy. He remained well for two years when extensive recurrence was noted. A third operation was performed at which time half of the nose and a portion of the cheek were removed, and an attempt was made to cover the defect with a graft. The graft sloughed, and subsequent examination showed residual cancer. He was then referred to our Clinic.

Examination.—On admission the patient presented a large ulcerative tumor infiltrating the upper lip, upper buccogingival gutter, floor of the nasal cavity, antral wall and infra-orbital ridge. There was no regional lymph node involvement. Biopsy showed squamous cell carcinoma grade 2.

Treatment.—On August 18 under general anesthesia the left external carotid artery was first ligated to control hemorrhage. Then by means of cautery an incision was made from the inner canthus of the left eye down the bridge of the nose, across the upper lip

Fig. 9.—Dentures constructed for Case 6

and cheek to the lateral canthus of the eye, then under the lower lid to the inner canthus. In the mouth an incision was made through the hard palate to the right of the mid-line. The palate was cut with a chisel; the zygoma was cut with bone forceps. Then by blunt and sharp dissection the entire tumor mass together with the left antrum, except that portion forming part of the floor of the orbit, was removed.

Healing was slow, and after sufficient time had elapsed to make certain no cancer remained, a large flat pedicle graft was developed on the anterior chest. By successive advancements it was moved up to close the defect in the side of the face. After adequate blood supply had been established, the lower portion of the graft was mobilized and sutured to the remaining portion of the hard and soft palate, thus establishing continuity of the oral cavity.

Since there was no alveolar ridge on the left and less than one-half of the hard palate remained, some difficulty was experienced in supplying the patient with a satisfactory upper denture. There was also a communication between the nasal and oral cavity which tended to break the seal of the upper denture. Nevertheless, the patient has worn the denture for two years with satisfaction. No adhesive powders were necessary for retention (Figs. 8 and 9).

Conclusion

There are many problems which arise in the treatment of cancer of the head and neck which require the cooperation of the surgeon and a dentist who is experienced in the field of maxillofacial prosthesis. This close cooperation between the two services is an advantage to the patient. Though the deformation may be corrected later by plastic surgery, the temporary prosthesis serves a useful purpose in maintaining good nutrition and morale.—*Wyman Park Drive at Thirty-First Street.*

STANDARDS OF DENTAL CARE IN PUBLIC HEALTH PROGRAMS FOR CHILDREN

Lester A. Gerlach, D.D.S., Milwaukee

In discussing the standards of dental care in public health programs for children, the public health dentist finds himself in somewhat of a quandary as to where to start and how to proceed. As a teacher in a dental school and as a private practitioner, I most heartily approve of the standards set by my colleagues who teach and practice pedodontics. However, as a public health dentist participating and directing the activities of public health dental clinics for the past twelve years, I cannot help but realize how fluid the word "standards" can become.

In the course of the succeeding discussion, the word "clinics" will be used in connection with public health programs for dental care. In the past and at the present time, all of the dental care given eligible or underprivileged children by public health institutions, although on a limited and varied basis, has been in clinic form, making it necessary for me, as a dental clinic director,

Read before the Dental Health Section, American Public Health Association Convention, November 13, 1946.

Dental director, Milwaukee Health Department.

to confine myself in this paper to this phase of a program of dental care for children.

History of Clinic Movement

The history of the public health dental clinic movement is interesting. Many of the first dental clinics serving eligible children were started by dentists in private practice who were philanthropically minded enough to study child dental health problems and to volunteer their aid in helping to solve them. Much of this work was financed by private health agencies associated with charitable institutions. It is well to remember that this pioneer movement started in the early part of the twentieth century and received added impetus when the theory of focal infection and its relation to dental infections was proved by clinical and laboratory observations.[1]

At the time of this consciousness of the deplorable condition of children's teeth and the resultant effect on general health, tax-supported public health departments were just beginning to be established in the various fields of preventive medicine. With this perspective, one must realize that any effort in the field of preventive dental clinic service had to be meager because of lack of foresight, interested personnel and available funds. The first dental clinics for eligible children were established in the densely populated communities because, as in other fields of organized health endeavors, all health hazards and conditions of ill health are more apparent and diversified and consequently become magnified in larger cities.

What standards were established in operating these first clinics? The general standard in the minds of the pioneers in this movement was without a doubt similar to the one we would want to establish in any dental clinic today; namely, to render mouths free of infectious processes which will imperil health, and, in doing so, to restore the masticatory organs to normal, healthy form and function.

Because of the great numbers of badly infected deciduous and first permanent teeth and the limited personnel available, the first dental clinics operated more or less as centers for extraction of teeth. Synonymous with the realization on the part of the dental clinic specialists that wholesale extractions were only the immediate solution and that the increment of carious teeth was culminating in greater numbers of extractions, the movement in children's dentistry began to take root. Technics in operative dentistry for the deciduous teeth and the permanent teeth which erupt early were perfected and made practical for application in clinics. Procedures for extraction were improved and speeded up, enabling clinics to operate more efficiently, thus conserving time for other dental operations. Because of the changing concept of the dental profession in regard to preventive dentistry, the role of the dental hygienist was recognized and authorized. This led to the awakening of the public health authorities, first local, then state and national, as to the need for programs for preventive dentistry, and, as a consequence, whenever possible, additional dental personnel became part of clinic staffs serving children.

Scope of Services

At the present time many philanthropic agencies, both sectarian and nonsectarian, are operating special, privately endowed dental clinics serving all eligible children of their community or confining themselves to those children of their own choice. Many of these agencies are able to establish standards whereby each child receives all of the necessary dental services available today; namely, adequate roentgenography; diagnosis; extractions

1. Rosenau, M. J., *Preventive Medicine and Hygiene*. New York: D. Appleton-Century Company, Inc., 1935 (sixth edition), p. 1374.

(with both local and general anesthesia); operative dentistry sufficient to restore to normal, healthy form and function all infected teeth that can be saved; oral prophylaxis; space retention and orthodontic treatment if needed, and any extra treatment and consultation necessary to correct other defects interfering with normal dental health and preventing future reinfection. Some other private agencies are operating under a skeletal program, doing the emergency work necessary for immediate needs and postponing any other work until such time as funds and personnel will permit. Many public health institutions, either local, state or national, are operating under the same conditions and are offering degrees of service varying from specific individual extractions for certain age groups to complete dental health service for all entrants. Needless to say, budgets are not as fluid as standards, and, when funds are limited, service must be disseminated proportionately. It must be borne in mind that the original professional standard previously mentioned does not change in any of these clinics, but the policy becomes one of incorporating as much of this standard as possible.

An ideal dental clinic program for children would provide complete dental clinic service for every child from the cradle to the time of graduation from high school. This service will include health education for the expectant mother, this education to be continued through the lactation and preschool period; initial acquaintance of the child with the dental office, and dental examination followed by subsequent periodic visits for treatment. Complete dental service will include consultations, roentgenograms, diagnosis, operative dentistry, extractions, space maintenance and orthodontic treatment, oral prophylaxis and any treatment and consultation necessary to correct any other defects interfering with normal dental health and to prevent further reinfection.

I doubt if there is a public dental clinic operating at the present time which is giving complete dental service to the eligible children in its community. If finances are not the stumbling block in the establishment of such a clinic, lack of personnel will surely be the issue at this time. Thus it is almost mandatory that one modify one's thinking when planning the establishment of dental clinic service at the community level. If funds become available, they undoubtedly will be limited, and this limitation will determine the type of clinical dental service program that is set up.

Using the initial standard previously mentioned, one must plan a scope of service which will be of good quality and which will include as many children as it is possible to serve with a curtailed setup. Much has been written and many comprehensive surveys have been made on the time necessary for certain operations in the field of clinical dentistry for children. Two of the most recent studies, one by Isadore Altman,[2] statistician, United States Public Health Service, and the other by Carl L. Sebelius,[3] dental director, Tennessee Department of Health, are of special interest to those who are planning any dental clinic service, because of their detailed description of time and materials involved. However, study of these surveys is discouraging because personnel up to this time has been so limited and the number of dental defects needing correction is so great. Inasmuch as dental service is part of the general health picture, those of us in dental health clinic service find that our budgets are combined with budgets of departments rendering health services in the other fields.

At one time some years ago, I calculated the cost per dental operation and the cost per injection in diphtheria im-

2. Altman, Isadore, Time per Service in a Children's Dental Clinic. *Pub. Health Rep.* 61:1211 (August 16) 1946.

3. Sebelius, C. L., Five-Year Time and Treatment Dental Study in Pickett County, Tennessee. *J.A.D.A.* 33:976 (August 1) 1946.

munization. The tabulation revealed that the total cost per diphtheria immunization for one child was $0.17. Comparatively, the cost per single dental operation, such as extraction or placing of a filling, was $0.52, and an average of seven operations was required to carry out the original standard of dental service as previously mentioned in this paper, not including roentgenography, orthodontic treatment and space maintenance. It is generally agreed by physicians that the initial diphtheria immunization is usually effective for life. However, each child who has had complete dental care for one year will of necessity be forced to have at least a minimum of two dental operations in each year thereafter, at a cost of $0.52 per operation. Fluorine therapy may help to solve a part of this problem, but at the present time that phase of preventive dental medicine is in its infancy. In the final analysis, the insufficiency of budgetary allotments for dental clinics and the high cost per dental operation are such that the services rendered must be spread comparatively thin at the present time. The solution of this problem, although not impossible, requires long-term planning.

Application of Standards

This brings us to the point of the practical application of standards of dental care in public health programs for children. Adapting the original standard to any community regardless of size of staff or facilities will serve as a beginning in planning a good dental clinic program. Every public health service seems to start gradually and to increase in momentum as the results of the initial efforts are made known. Included in the standards of complete dental care as mentioned before are space maintenance and orthodontic treatment. Orthodontic service and adequate space maintaining appliances, although vitally necessary, often are considered somewhat of a luxury in dental clinic service. They are time consuming, the patients are often uncooperative and the amount of effort and expense per individual patient is excessive. When the clinic is operating on a limited budget, it seems that the time and energy would be better spent on saving teeth or extracting badly infected teeth. The problems of space maintenance and orthodontic treatment in any mouth are relative and require much time and expert advice in diagnosis and treatment planning, making such treatment expensive and almost prohibitive in public health dental clinic practice. A study of records in clinics in which dental service has been limited to children under 8 years of age will show a surprisingly large number of children who have had their deciduous dentition preserved and a surprisingly small number of sixth-year molars that have required extraction. This form of natural space maintenance and preventive orthodontic treatment of the deciduous teeth and the preservation of the sixth-year molars as the keys to occlusion is the ultimate goal, and we cannot dwell too long on the impossible in the present generation at the neglect of the dental and general health of the future generations.

Application of some of these thoughts to the formulation of dental clinic procedures for children and the establishment of adequate standards raises the following points. The standard of rendering mouths free of infectious processes which will imperil health, and, in so doing, restore the masticatory organs to normal, healthy form and function should be observed as the first objective. Even if extraction is the initial service and operative dentistry is to be added later, when operative dentistry becomes a part of the service it should be limited to children under a certain age and made as complete a service as possible. Should there be a need for service to children above the age limit set, emergency service only should be given.

When teeth are saved for 6 year old children, the number of emergencies in the 12 year old children will be reduced.

Standards of operative procedure must always be of the highest, and adequate supervision by a qualified person is necessary. Choice of personnel is usually established by examination, and many examiners feel that a good general dentist, young in the profession, can be better adapted to pedodontics in a clinic than an older person from private practice. This is a debatable point and rests with the persons establishing the standards for personnel in the various communities. A valuable adjunct to the dentist serving children is a good working knowledge of child psychology, as it will aid him in the ultimate goal of good dental service.

In the past few years, the fields of health education and dental medicine have gained recognition and with this recognition have come new advancements in dental health educational technics and chemotherapy. Dental clinicians many times become so engrossed in the technical operations involved in the practice of their profession that they forget the value of dental health education and preventive dental medicine. Educators are continually endeavoring to reduce the size of classes in elementary schools. Their explanation is that the more individual attention each child receives the sooner he will grasp the subject, and for that reason special help given students is always individual in nature. Is there a better place to preach the gospel of good dental health education than in a dental clinic especially adapted to children? When the school children come into a dental clinic, an attractive waiting room, so decorated that the rudiments of dental health are stressed, will be an asset. There should be material on dental health for parents who accompany their children to the clinic. If a dental assistant or dental hygienist is in attendance, she can be assigned the job of collecting material, displaying it properly and acting as a teacher when necessary. When the child sits in the dental chair, the dentist, the assistant, the hygienist or the school nurse has a wonderful opportunity to explain dental treatment and the sequelae of neglected dental infection. It is pure folly to give a child good dental care without making a concerted effort to create a desire within him and his parents to maintain his dental health.

Recently, the practice of preventive dental medicine, although comparatively new in the field of dentistry for children, is growing in importance. Such laboratory procedures as determinations of salivary pH and counts of lactic acid bacilli must be coordinated with clinical findings for good results. If one is to establish a high standard of over-all dental clinic service, measures of this kind must be kept in the foreground for eventual incorporation in a dental health program for children. The ideal place to begin the practice of good preventive dental medicine in all of its clinical aspects is in the dental clinic. Although some laboratory procedures or chemotherapeutic phases of the work cannot be carried out in the clinic proper, it is extremely important that any interesting progress reports be coordinated with clinical findings. Hence, future services of this nature, both in their initial stages and in their eventual incorporation as regular dental public health procedures, will become part of the activities of the dental clinic.

Another standard of dental care in public health programs for children is that of eligibility for service. The determination of a general over-all standard for this is virtually impossible. Each community's public health department has a policy of operation in conjunction with its welfare department, school board, council of social agencies and professional societies. Such pertinent points as eligibility for entrance into the clinic,

free clinical services rendered, establishment of part-pay clinics and extent of services rendered to individuals and families must be decided locally through the cooperation of all interested agencies. When a policy concerning clinic entrants has been formulated in a community, it behooves all of the interested parties to maintain a high standard of efficiency in carrying out this policy.

Conclusion

At the present time, the need of dental care for children is far greater than the services rendered by public health programs. Standards established for this type of service, while necessary, have to be fluid in order to fit into all kinds of programs. Limited budgets and inadequate dental personnel will govern the amount of service given. The standard of personnel and the quality of technics and supervision must be kept high in any type of limited dental care program, as a high level of professional service must be the goal at all times. The standards of age limits, health education, preventive dental medicine practices and eligibility for care necessarily will be fluid because of the basic demand for service, the personnel available, other community dental care programs and budgetary allotments. Regardless of whether a dental care program is small or large, adherence to standards of this kind is inevitable. It is necessary to keep the long-term perspective in mind and to continue pointing toward it. In this way both the quality and the quantity of dental care administered to children in a public health program, regardless of limitations, will remain at a satisfactory level and will make expansion less difficult when the occasion and the opportunity demand.—*425 East Wisconsin Avenue.*

DENTAL APTITUDE TESTING PROGRAM: A REPORT OF PROGRESS

Shailer Peterson, Ph.D., Chicago

DENTISTRY now has its first nation-wide testing program in progress. Furthermore, dentistry is the only profession now whose Association is conducting its own aptitude testing program. This does not mean that other professions are not making use of aptitude testing. A testing agency is engaged in conducting programs of testing for both engineering and medicine at the present time. Also, a two-year testing program is being conducted by the American Council on Education for students of pharmacy. The purpose of this paper is to summarize the steps taken in the Dental Aptitude Testing Program and to describe the progress to date.

For some time the Council on Dental Education, having completed the initial evaluation of the dental schools, has been considering an evaluation program to include the dental student. Plans were made for a nation-wide experimental program of aptitude testing designed to determine the feasibility of employing tests to predict the success or failure of

Director of Educational Measurements Council on Dental Education, American Dental Association.

dental students. The Council then submitted these plans to the American Dental Association, who elected to sponsor the undertaking.

The credit for planning the program belongs to both the Council and to the Council's Special Committee on Aptitude Testing. This Committee is composed of three members from the Council, Dr. Bert L. Hooper, dean of the College of Dentistry, University of Nebraska, chairman; Dr. J. Ben Robinson, dean of the Baltimore College of Dental Surgery, University of Maryland; and Dr. Robert W. McNulty, dean of the Chicago College of Dental Surgery, Loyola University, Chicago; and three members of the Committee on Aptitude Testing of the American Association of Dental Schools, Dr. Ray V. Smith, professor of prosthetics, College of Dentistry, the State University of Iowa; Dr. Wendell L. Wylie, associate professor of orthodontics, College of Dentistry, University of California; and Dr. William E. Hahn, professor of anatomy, Baltimore College of Dental Surgery, University of Maryland.

Objectives of the Program

The Dental Aptitude Testing Program has two principal objectives, namely: (1) to collect a description of the type of students entering dentistry today and (2) to determine the testing methods and procedures that might be used effectively in selecting from the many applicants those who will profit most from a dental school education. These two objectives are related and it is possible to employ some tests which provide information important to both objectives.

After studying the results of other aptitude testing experiments and discussing the special objectives and aims of the proposed program, the Committee considered a long list of factors, each of which might prove useful for predicting success in dental school. Some of these factors had been studied in previous investigations and others were the result of observations made by members of the Committee. Those who planned the program kept in mind that at the outset, at least, the testing ought to consume no more than a full day, and moreover that it would not be necessary to accomplish all of the objectives the first year.

For the first year the Council and its Committee agreed to test the student's ability in a number of different areas. These tests were selected for their ability to measure the student's—

1. Knowledge of word meanings, that is, his scientific vocabulary.
2. Ability to read with understanding the type of material that he would be expected to read in dental school.
3. Ability to express himself correctly and effectively in writing.
4. Ability to visualize patterns and relationships.
5. Ability to use his hands and fingers skillfully and dexterously.
6. General intellectual ability.

Planned for later consideration and for possible inclusion in later testing schedules were such things as the student's (1) ability to memorize verbal and visual material, (2) appreciation of artistic design, (3) general cultural background, (4) interests, (5) ability to express himself orally, (6) personality, (7) perseverance, (8) ability to coordinate his muscular movements and (9) sociability and adaptability.

Program Administration

Seven tests were used the first year of the program. Some of these were prepared by the Council's Committee on Aptitude Testing and others were selected from those which had been tried out in other programs and found useful. These tests were assembled in the Council's offices in Chicago and sent to each school together with detailed directions for administering the entire battery. Nearly every school had named from its faculty a committee on aptitude testing

and charged it with the responsibility of administering the tests and carrying on the bulk of the correspondence about the program.

These special school committees exist formally or informally in every school. They have been invaluable to the success of this program. The plan of employing such committees within each of the cooperating groups is unique to this program as a whole.

These special committees not only administered the tests in the beginning of the school year but also gave tests wher-

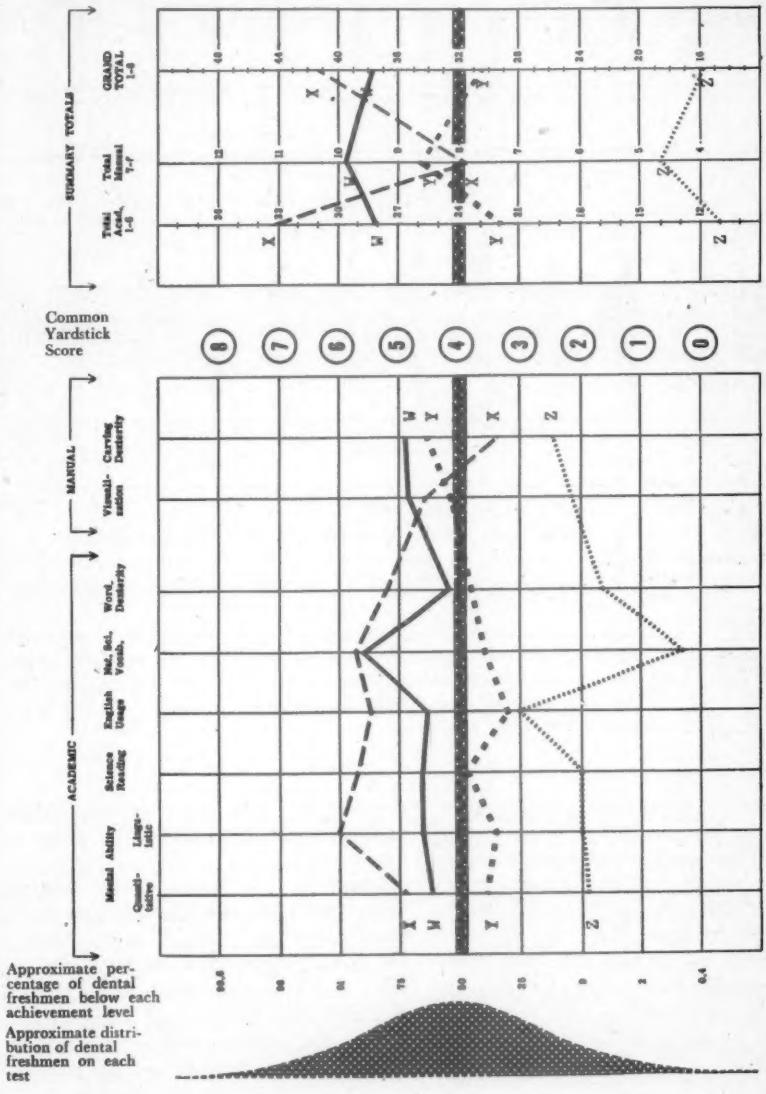
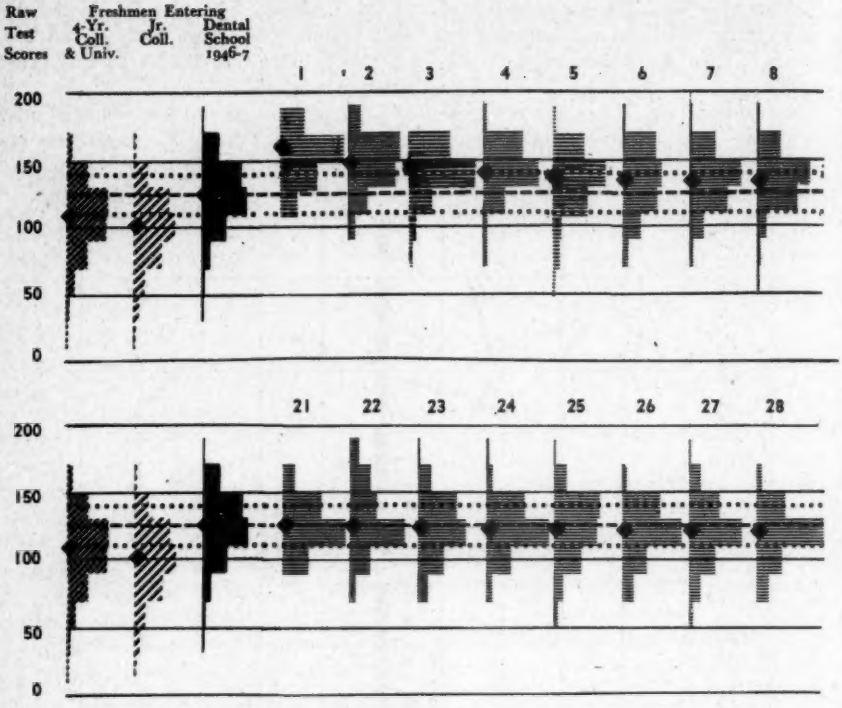


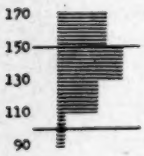
Fig. 1.—Profiles showing the comparative performance of freshmen in four dental schools on tests in the Dental Aptitude Testing Program



◆ = Median score, above which are 50 per cent of the group concerned

▬▬▬ = Median score for dental freshmen

..... = Points between which the middle 50 per cent of the dental freshman students fall



= Graph showing distribution of student scores on this test, with the width of the graph at any point representing percentage, for example, 30 per cent in this sample earned scores between 150 and 170; 40 per cent between 130 and 150; 25 per cent between 110 and 130, and 5 per cent between 90 and 110.

ever necessary to students who had been unable to attend the original testing period. These committees have been responsible also for providing other information about the individual students from time to time. Now that the first school year of testing has closed these same committees are helping to complete records of each freshman by assembling a record of each student's achievement in dental school. These grade records will provide the basis for determining the value of the tests as predictors of dental school success.

Many of the records assembled by these committees undoubtedly have been found useful by the school and its faculty for other information beside being of vital importance to the success of the Aptitude Testing Program. The methods of keeping student records vary greatly from school to school and the activity

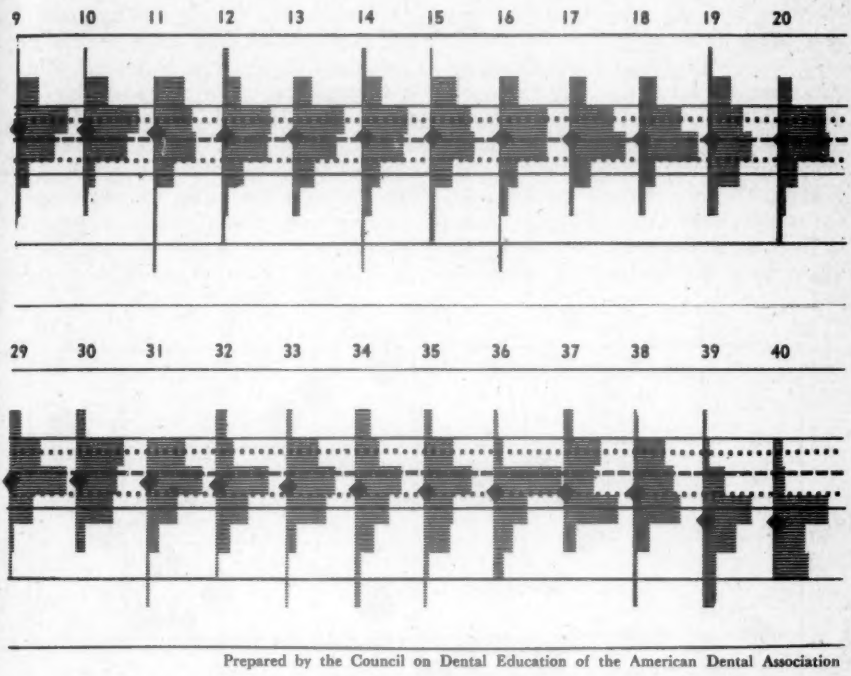

9 10 11 12 13 14 15 16 17 18 19 20
29 30 31 32 33 34 35 36 37 38 39 40
Prepared by the Council on Dental Education of the American Dental Association

Fig. 2.—A comparison between the performance of students in the forty dental schools on one of the tests in the Dental Aptitude Testing Program. (This test is the American Council on Education Psychological Test, a test of general mental ability)

of this program which calls for a certain group of data from all of the schools undoubtedly will tend to make some of the record keeping policies more uniform among schools. Numerous requests have come from the schools asking for advice and suggestions for revising their record system or for setting up a new one.

When the Council explained its plans for the Aptitude Testing Program each of the forty dental schools volunteered to cooperate in the undertaking. This is particularly significant, for while 51 per cent of the schools had at one time or another given some aptitude tests, only 8 per cent had a program in operation at the time.

All of the forty schools gave the battery of tests to all of their incoming freshmen and about two-thirds of the schools requested sufficient testing materials for administering the tests to certain of their

upper classes. In all, about 3,000 freshman dental students and 2,500 upperclassmen took the tests during the first year of the program.

After each school's committee had administered the battery of tests to its students, the students' test answer sheets and carvings were returned to the Council's offices in Chicago where they were graded. The carving test was the only one of the group which had to be graded by individual inspection. In all of the other tests the students demonstrated competence by indicating their answers on special sheets which could be graded electrically. The electric scoring machine has proved extremely accurate and the grading of each carving by several different people has given assurance that the scores on this test, also, are highly reliable.

A report of each student's grades was sent to the school after the papers and carvings were graded. At the time these first reports were sent it was impossible to inform the respective schools how

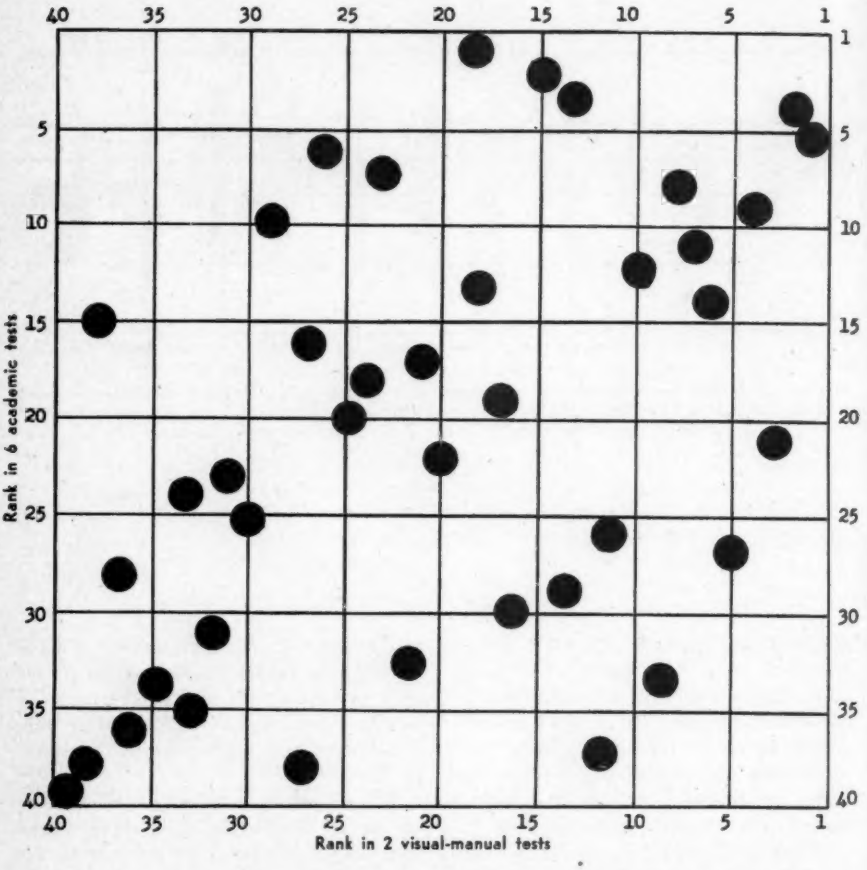


Fig. 3.—Relationship between the ranks of different freshman classes in six academic type tests and two manual-visual tests

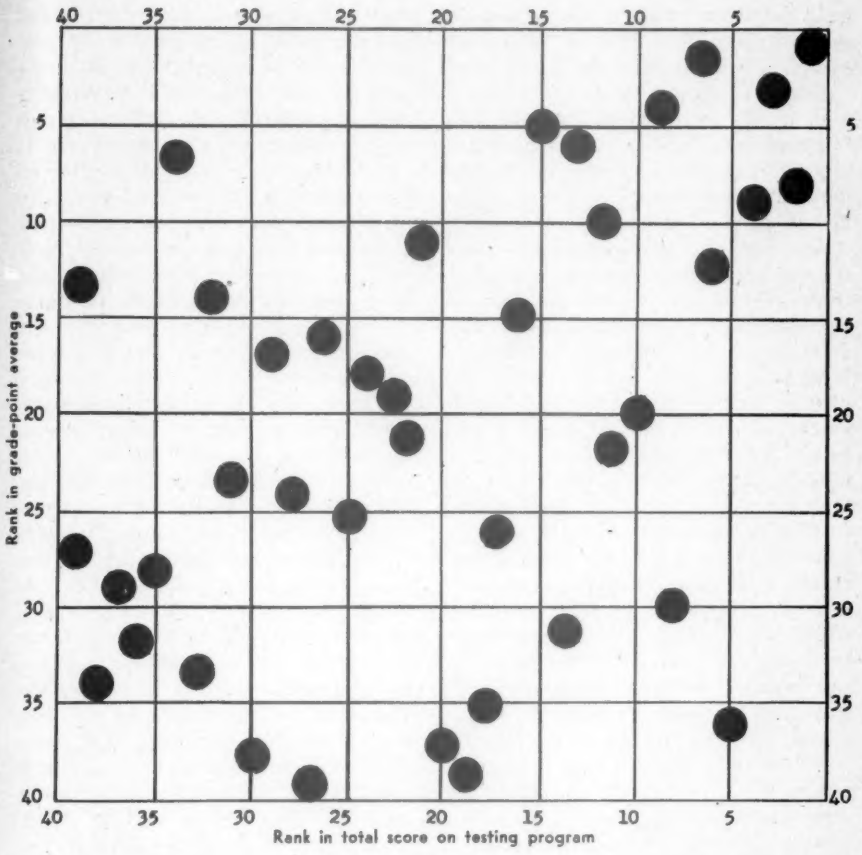


Fig. 4.—Relationship between the ranks of different freshman classes in predental grade-point average and over-all performance on all the aptitude tests

well their students compared with students in other dental schools but it was possible in the case of some tests to indicate those scores regarded as extremely low.

Comparative Ratings

All of the test score data have been processed now and reports have been sent to each dean informing him of his freshman students' performance on each of the tests in the battery. Figure 1 is a hypothetical report describing performance of the students in four schools by giving four separate profiles superimposed on the same graph. The heavy horizontal line on the graph represents the average performance of all of the freshman dental students and therefore points plotted above this line represent scores above the average, whereas points below the line represent scores below the average. The graph provides a means of showing the relative performance of a school's average freshman student in

eight test areas. School W is one in which the average performance has been relatively high in most of the areas. The freshmen in School X rated extremely high in all areas except carving. The freshmen in School Y rated low in almost everything except visualization and carving and those in School Z rated relatively low in all of the areas.

The four schools whose profiles were selected as examples for Figure 1 demonstrate the fact that the average scores of students may be either consistently low, as in the case of School Z, consistently high, as in the case of School W or they may be high in some areas and low in others, as in the cases of School X and School Y. This same thing is also true of individual students. In fact, the variation between the accomplishment of students in the different areas is even more marked. Since one cannot find readily students who earn extremely high scores in every test, it is necessary to know which tests are of greater importance in predicting success. After studying the relationships between these different scores and the student's success in dental school, it will be possible for the Council and the schools to ascribe suitable weighting to scores in these various test areas and to use the scores for predicting success. Already, the deans in several of the schools have discovered that the test scores give an accurate index to the performance of many of their students.

Figure 2 gives the score distributions of the freshmen in the forty dental schools on the mental ability or intelligence test. The solid black distribution near the left of the figure describes and compares all of the dental school freshmen including the freshmen entering four-year colleges and universities and the freshmen entering junior colleges. It is interesting to discover that the top 50 per cent of the dental freshmen have scores comparable to the top 25 per cent of the freshmen entering four-year colleges and universities. Furthermore, the top 25 per cent of the dental freshmen get intelligence scores equivalent to the top 8 per cent of the freshmen in four-year colleges and universities. Figure 2 also shows that there are relatively few dental freshmen who get extremely low intelligence scores. The legend at the bottom of the figure explains that the dots represent the median for each score. The schools have been arranged according to these median scores with the one having the highest median listed first.

Figure 2 lists the schools according to the performance of their freshmen on one of the seven tests in the testing program. As observed in Figure 1, a high rating on one of the tests is no guarantee of high scores in all of the test areas. The intelligence score represented in Figure 2 is a composite of the two intelligence scores listed an "Quantitative" skill and "Linguistic" skill on the profile chart in Figure 1.

Difference in Skills

Figure 3, like Figure 1, illustrates the possibility of considerable difference be-

Fig. 5.—Three different carving designs were required in the Dental Aptitude Testing Program. Above are examples of one perfect carving and several very poor carvings of each design

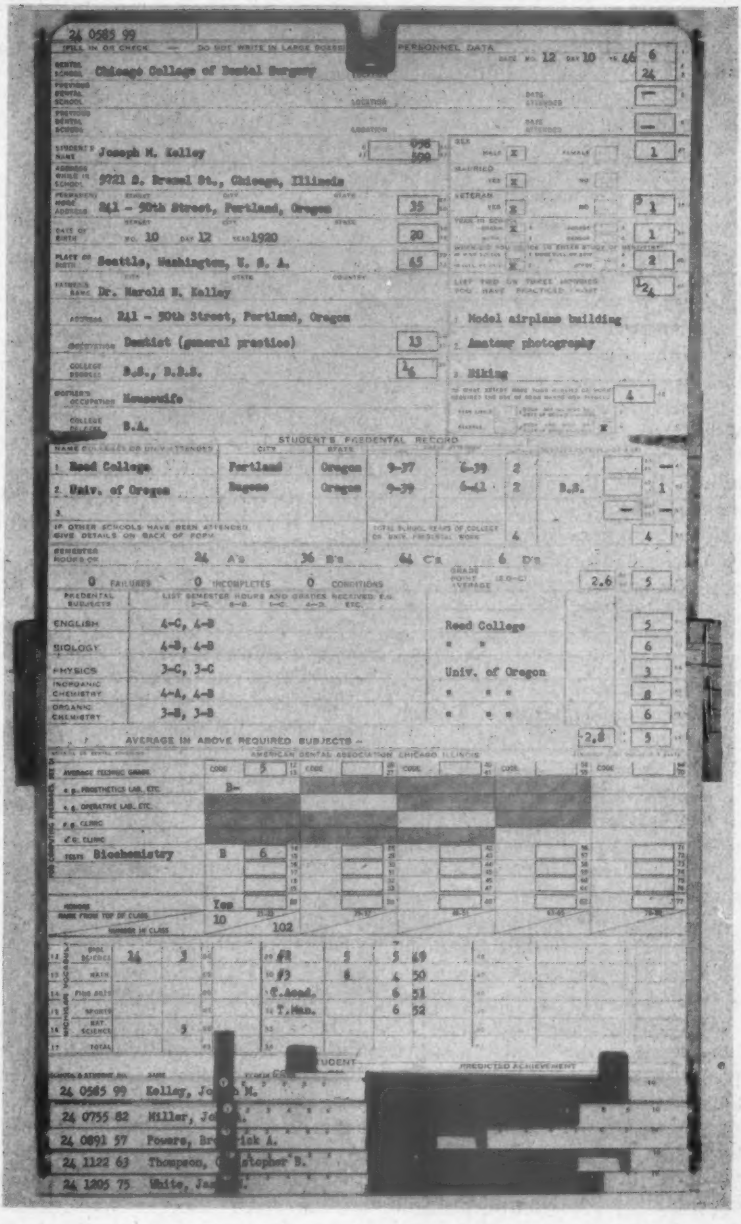

24 0585 99
PERSONNEL DATA
Chicago College of Dental Surgery
Joseph M. Kelley
9721 S. Drexel St., Chicago, Illinois
841 - 50th Street, Portland, Oregon
Seattle, Washington, U. S. A.
Dr. Harold B. Kelley
241 - 50th Street, Portland, Oregon
Dentist (general practice)
B.S., D.D.S.
Housewife
B.A.
Model airplane building
Amateur photography
Hiking
STUDENT'S PREDENTAL RECORD
1 Reed College Portland Oregon 9-37 6-39 2
2 Univ. of Oregon Eugene Oregon 9-39 6-41 2 B.S.
0 FAILURES 0 INCOMPLETES 0 CONDITIONS
24 A's 36 B's 44 C's 6 D's
2.6
ENGLISH 4-C, 4-B Reed College
BIOLOGY 4-B, 4-B
PHYSICS 3-C, 3-C Univ. of Oregon
INORGANIC CHEMISTRY 4-A, 4-B
ORGANIC CHEMISTRY 3-B, 3-B
AVERAGE IN ABOVE REQUIRED SUBJECTS -- 2.8
AMERICAN DENTAL ASSOCIATION CHICAGO ILLINOIS
B-
Biochemistry B 6
Yes
10 102
24 0585 99 Kelley, Jo M.
24 0755 82 Miller, Jo
24 0891 57 Powers, Br ick A.
24 1122 63 Thompson, C stopher B.
24 1305 75 White, Ja

Fig. 6.—Specially designed file forms using three cards for each student's data and showing the visible guides that predict his anticipated performance

tween skill in one test area and skill in another. This figure compares the ranking of freshman classes on two factors, a summary of six tests, all of which measure those skills associated with reading, English, arithmetic reasoning, and so forth, and a summary of two tests which measure the ability to visualize and the ability to carve. It is too early to draw conclusions from these data but it would appear that these two particular groups of skills do not go hand-in-hand always. They are not related to one another in a negative fashion, that is, one always great when the other is small.

Figure 4 is another comparison of group ranks in which the predental grade-point averages are compared with the over-all performance on the aptitude test battery. Again, there is no consistent agreement between the rank of a group in their predental grades and their comparative performance on the tests. This finding is of importance to admission officers for it emphasizes the fact that the performance of a student as described on his college transcript does not coincide in every instance with the performance he can demonstrate at the time of entering school.

Figure 5 shows the three different carving designs that were required during the first year of the program. These designs will be changed each year the battery tests are given. All of the carvings were made by using pieces of chalk three inches long by approximately five-eighths inch in diameter. Each student was given three pieces of chalk together with a detailed description of the designs to be carved, the method for using the knife and a list of the points on which his carving was to be graded. Figure 5 shows one perfect carving of each design as compared to some of the poorest carvings that were submitted. This illustration will show the wide range of carving abilities exhibited by the students who had been admitted to the study of dentistry. There were many excellent carvings, a large number of mediocre ones and a sizable number of poor ones. Already it has been learned that some of the students whose poor carvings are shown have withdrawn from dental school.

Record Systems

Complete records are being assembled in the Council's offices on each student under study in this program. These records include test score data, personnel information, predental school information and a record of the student's performance in dental school. These records are being kept on specially designed visible file forms illustrated in Figure 6 and the data from these are placed on punch cards for study and comparison. These special forms are of particular interest as visible guides make it possible to show the quality of work that is predicted for any student. Also, these file drawers may be photographed for rapid reporting on the standings of an entire class of students. Copies of these special card forms are made available to each school so that it may maintain a duplicate of the file that is being kept on its students.

Conclusion

As a progress report of the Aptitude Testing Program, these illustrations and descriptions will present to the dental profession something concerning the plans that were made for the program, something about the machinery that has been set up to conduct the program, the type of reports that have been given to the schools, the type of records that are being kept on the students, and some of the advance findings from the large amount of data that are being collected. As more information is obtained a series of articles will appear in which various aspects of the program and its findings will be discussed in much greater detail. —*222 East Superior Street.*

IMMEDIATE DENTURE PROSTHESIS: TOOTH ARRANGEMENT AND ESTHETICS

Carl W. Gieler, D.D.S., M.S.D., Chicago

THE ability to duplicate the appearance of a patient's upper anterior teeth is most gratifying to both the dentist and the patient. It is not always desirable to duplicate the appearance of the natural teeth since in many cases there has been a disfigurement that has embarrassed the patient for many years. However, it is nearly always possible to improve on the positions of the teeth without appreciably altering the patient's facial expression using the position of the natural teeth as a guide.

The construction of immediate dentures presents some problems that as a rule are not encountered in the building of dentures for edentulous patients. One of these problems is the attainment of maximum esthetic effects without sacrificing balanced articulation. In almost every consideration of immediate dentures the possibility of securing esthetic results by duplicating the arrangement of the natural anterior teeth is stressed. However, in many cases it is not possible, even though desirable, to produce such a result without causing a loss in the stability and retention of the dentures and a subsequent injury to the supporting tissues.

It may not be possible always to attain the ideal in developing a balanced articulation, but no effort should be spared in attempting the utmost in efficiency in this procedure. Not only should a denture have a balanced articulation, but also the denture base should be accurately fitted by securing good surface adaptation with proper peripheral form and extension. It is especially important to render the best possible service to a patient who is receiving his first denture. At this time the patient will have his greatest difficulty in acquiring the use of dentures, and if they have been built scientifically, his confidence will be bolstered greatly.

Read at the eighty-second midwinter meeting of the Chicago Dental Society, Chicago, February 10, 1947.

Reference Points and Reproduction

The following discussion will deal with the importance of pre-extraction records in the building of immediate dentures. Pre-extraction records are very important in the diagnosis and prognosis of any case. These records will enable the operator, not only to simplify and make more accurate his procedures, but will be useful also when new dentures are made for those patients in the future. Very often a patient for whom such a service has been rendered will travel hundreds of miles to the dentist who has these records since he knows that in this way he will be able to obtain a denture service that will restore his natural facial expression.

I have been using the following records for a period of three years, and they seem adequate in every respect.

Photographs.—If photographs are desired it is best to obtain profile and frontal views with the lips in contact, and also parted as in smiling. Life-size photographs are preferred. However, color slides serve a more useful purpose than photographs as they can be projected so that the image on the screen will be the natural size. Another advantage in using

slides is that they occupy minimum space in filing for future reference.

Profile Record.—This record may be made easily and quickly by adapting a soft lead wire (solder) vertically over the center of the face. An outline of this wire may be transferred to stiff cardboard by means of a pencil tracing, which in turn may be trimmed to fit the profile of the face. While this record may not be essential in building an immediate denture, its value will be seen readily in constructing future dentures for the patient. The profile record will show the extent of changes which occur after dentures have been worn over a period of time when a shortening of the vertical dimension of the lower one-third of the face has resulted. It will enable the dentist to build new dentures that will restore the original facial contour. It should be noted that if there has been a decrease in the vertical dimension of the lower one-third of the face because of wear and drifting of the natural teeth it might be advisable to make this record after the correct dimension has been determined.

Roentgenograms.—In the study of the roentgenograms of the anterior teeth it is possible frequently to estimate the density and extent of the alveolar process surrounding the roots of the teeth. This information may be an aid in deciding to what extent the cast may be trimmed in preparation for the setting of the anterior teeth.

Measurement of the Gingival Crevice or Pocket.—A notation should be made of the depth of the gingival crevice or pocket on the labial, lingual and proximal surfaces of those teeth which are to be trimmed from the cast. This information is of greater value than the roentgenogram in determining the amount the cast should be trimmed adjacent to the teeth. In deep pocket cases dentures will fit better for a longer period of time if these observations and checks are made. The additional trimming of the cast which is permitted in such a case will facilitate the setting of the anterior teeth as there will be more space in which to set them, and in many cases the ridge-laps of the teeth will not need to be ground.

Reference Point on the Bridge of the Nose as Landmark.—In most elderly individuals there will be found one or more permanent wrinkles on the bridge of the nose, and usually one of these will be more prominent than the others. By using this wrinkle as a landmark a measurement can be made between it and the incisal edge of the upper central incisors. This measurement should be recorded to serve as a check on the length of the artificial incisors after the denture has been placed in the mouth. If errors in processing have been made resulting in an elongation of the incisors the exact amount of such changes can be determined by this method. Also this record constitutes a form of "measurement insurance" should a patient inexperienced in the use of artificial dentures complain that the teeth are not the correct length. It will aid also in establishing the correct placement of the incisors with regard to the vertical position when the patient needs another denture. Using this landmark as a guide is a timesaver in building new dentures for patients who desire a 1 or 2 mm. increase or decrease in the position of the incisal edges of the upper anterior teeth and is far more accurate than the rest position of the upper lip when making such changes.

Impression of the Upper and Lower Teeth and Ridge.—Accurate impressions should be taken so that the models made from them may be used as a guide in arranging the artificial teeth on the casts made from the final impressions. It may be desirable also to mount these casts on an articulator in order to make further observations. A visual and digital examination of the mouth and a study of the models on the articulator will be of aid in determining whether surgical preparation of the

posterior ridges will be necessary before final impressions are made. For example, a very prominent tuberosity, consisting either of bone or of fibrous tissue, will interfere with proper tooth arrangement, thus preventing proper occlusion and sometimes precluding esthetic effects. If the models previously discussed are not mounted on an articulator, then a model made from a labial impression of the anterior teeth in centric relation will give a permanent record of the amount of overbite and overjet present in the natural teeth.

Selection of Shade and Mold.—A record should be made of the shade and mold of each anterior tooth, also noting fillings and other irregularities of the teeth. A study of these specific facts, as well as the other factors usually considered in complete denture construction, will permit the dentist to make a complete and accurate diagnosis and will enable him to predetermine the probable outcome of the case. The procedure, as outlined, will build up the patient's morale, increase his confidence in the dentist and usually secure his cooperation after the dentures have been inserted.

Experience has shown that most immediate denture patients receive greater satisfaction when all of the posterior teeth have been removed, and when the ridges have been permitted to heal about six weeks before final impressions are taken.

Recording Jaw Relations.—There are a number of excellent methods for recording jaw relations but it is not my desire to discuss them or to convert anyone to some special system or method of taking records. However a method should be used which will permit the registration of the movements of the condyles, so that the teeth can be arranged to function in harmony with movements of the lower jaw.

After the casts have been attached to the articulator, it will be possible to make a more thorough study of the problems involved in attaining balanced occlusion and articulation. The posterior teeth should be arranged so that there will be balanced occlusion and freedom from interference in all functional positions. This may be done easily in those cases in which the remaining natural teeth are in a relatively normal position with minimum overbite and overjet. However, the greater percentage of cases offer more or less serious obstacles in attaining ideal articulation.

Try-in.—In most instances it is advisable to have a try-in of the posterior teeth, to check the occlusion, esthetic appearance and vertical dimension. Changes which may be necessary in the arrangement of the anterior teeth in order to obtain an efficient denture may be pointed out to the patient. It is also advisable to have the patient make a study of his own anterior teeth and indicate what changes he may desire. Some patients desire as near a reproduction of the natural teeth as possible, while others want slight modifications in size, color, or arrangement. This information should be recorded for use in setting the anterior teeth.

Complete success in the building of artificial teeth often is not obtained because the importance of the articulation of teeth is minimized. If there is an excessive overbite and a lack of occlusal balance in the lateral and protrusive positions of the mandible, stability and retention of the denture will be hindered and the supporting tissues may be permanently injured.

Attaining Balanced Articulation

Since an immediate denture may be built against a full complement of lower natural teeth, a combination of natural teeth and a partial denture, or a complete lower artificial denture, variations must be made in the arrangement of the artificial teeth. The problem most frequently encountered is an excessive overbite of

the natural anterior teeth. This condition may be counteracted by several means, depending on the positions of the lower natural teeth or on the kind of lower restoration to be made. The elimination of interference of the anterior teeth in immediate denture construction may be accomplished by (a) increasing the vertical dimension, which automatically decreases the overbite and increases the overjet; (b) making a steep compensating curve; (c) increasing the height of the cusp, and (d) by shortening the anterior teeth. If an increase in the vertical dimension is contemplated, one must consider the possibility of exceeding the limits of anatomic tolerance. If the vertical dimension is increased too much the patient will experience difficulty in using the dentures, and the supporting tissues may undergo rapid destructive changes.

The greatest difficulty is encountered usually in building a denture against a full complement of lower natural teeth. When conditions permit, the balancing of the teeth can be simplified considerably by increasing the vertical dimension or by shortening the upper anterior teeth. Frequently it will be necessary to do both. Sometimes, in spite of the care used in attempting to develop the proper occlusion, it will be found that the anterior teeth still interfere in lateral, and protrusive movements. In such a case, if esthetic appearance will permit, the anterior teeth should be given enough overjet to prevent interference during the normal lateral chewing movements even though they may strike in the extreme movements. While such an arrangement of teeth may not be ideal, it will permit the posterior teeth to function normally without harmful effects upon the ridges.

When the upper denture is to be built against lower natural anterior teeth and lower posterior artificial teeth, the same method may be used to develop proper tooth arrangement. However, since the lower as well as the upper posterior teeth can be arranged to suit the individual case, the problem is somewhat simplified. Freedom of interference of the anterior teeth can be attained by using anatomic posterior teeth and, if necessary, by developing a relatively steep compensating curve. If, because of abnormal ridge relation, the compensating curve cannot be made steep enough to eliminate the anterior interference, the cusps of each of the upper and lower posterior teeth may be increased by deepening the sulci. This may be done by grinding the teeth with a knife-edge stone.

When a complete lower denture is to be built, the factors mentioned previously still apply. However, if the position of the anterior teeth must be changed in order to develop a balanced occlusion, for esthetic reasons it is best to alter the lowers.

One of the factors frequently overlooked in balancing occlusion is the change of position of the teeth in the denture during processing. Every complete denture should be remounted on the articulator, either against the original casts on which the dentures were processed, or by taking new mouth records and then attaching the casts to the articulator. I prefer to mount the upper denture by means of an index made before removing the wax model and cast from the articulator. Lower dentures and partial dentures are remounted by using new mouth centric records. If a lower partial denture is to be mounted on the articulator an impression should be taken with the partial denture in the mouth. The partial denture is removed from the mouth and placed into the impression, the undercuts are relieved with soft wax, and a model is made by pouring stone into this impression. The completed model will have on it the partial denture and may be accurately attached to the articulator with a centric record. In all cases a mouth protrusive record is used to adjust the condylar elements. It is now possible to make the necessary occlusal corrections by careful spot grinding. The

ultimate aim in spot grinding is to eliminate all cuspal interferences and to develop a balanced occlusion in all functional positions. Final correction may be made by having the patient chew abrasive paste until there is a complete absence of interference of the cusps of the teeth within the functional movements.

The following study was made to determine the value of remounting completed dentures on the articulator to make occlusal corrections: Dentures, after having been removed from the flasks and polished, were placed in the mouth and the occlusion was corrected as carefully as possible by means of spot grinding followed by milling-in with abrasive paste. In from one to seven days new jaw relation records were taken and the dentures were mounted upon the articulator. In almost every case it was observed that additional corrections in occlusion were necessary, some of which were of major importance. In most cases the patients noted a decided improvement after the additional corrections had been made on the articulator.

Esthetics in Prostheses

In complete denture prosthesis esthetics relates to the development of an artificial substitute for the loss of the teeth and supporting structures so closely imitating nature as to escape detection even upon close observation. In order to accomplish such a result a great deal of artistic ability is required. The factors to be considered in immediate denture prosthesis are facial contour, arrangement of the teeth with regard to size, form, alinement and position, and color.

In nature an irregularity of the anterior teeth seems to be the rule rather than the exception. Furthermore, this irregularity occurs without a classic pattern, but varies with each individual. Thus it follows that dentures should be harmonized to the needs of each individual. This does not mean that every irregularity and defect should be duplicated, but rather that a careful study be made of the main identifying features of the natural teeth, and that these be copied if desired, or altered to a greater or lesser degree depending on the kind and extent of the imperfections. It should be the aim of the dentist to avoid altering the individuality of the mouth except in unusual cases.

Facial contour in immediate denture prosthesis usually concerns itself with the development of a labial flange that is made thin enough to avoid bulging of the lips. It need not be so thin, however, that the patient has cause to worry for fear of breaking the denture in normal use. In building an immediate upper denture for a patient who has a marked mandibular prognathism, usually it is desirable to build out the upper lip in order to develop a natural facial expression. This may be done by thickening the labial flange of the denture, and by setting the anterior teeth somewhat labially. In order to determine the proper labial contour, soft wax may be molded under the upper lip against the labial gum tissue and over the natural teeth. Varying thicknesses of wax may be tried until the desired lip contour is developed. The piece of wax which gives the proper contour is saved and later used in completing the waxing up of the model denture. This procedure will give the patient an opportunity to see what improvement in facial contour can be made before the dentures are completed.

In the last ten years the manufacturers of artificial teeth have made great strides in developing teeth that look natural and often defy detection even by the dentist. However, such teeth still follow a mass average, and in many instances it is desirable to make some changes. Patients who are about to receive dentures usually have incisal wear, fillings, stains, and various other imperfections. It is up to the dentist and the patient to decide whether any or all of these imperfections

should be copied, and to what extent. The dentist should have on hand one or more dentures showing various types of irregularities in order to give the patient an opportunity to see what can be done in imitating the appearance of natural teeth. A comparison of such dentures with one that has beautiful and perfectly arranged teeth will help the patient to decide which he prefers.

In selecting the size and form of the anterior teeth it is simpler to use the natural teeth for a guide than to use the teeth on the stone model. The size and form can be determined quickly and accurately by carrying appropriate mold guide teeth to the mouth one at a time, checking each anterior tooth. In selecting a right central incisor, for example, the mold guide tooth is held upright next to the natural tooth and studied with regard to size and shape. Next, the mold guide tooth is inverted and held under the left central incisor and is studied for symmetry. Several trials may be necessary to find the correct tooth. The same procedure applies to selection of the laterals and cuspids. It must be remembered that in middle-aged people there is considerably less incisal translucency of the natural teeth than that found in most present day artificial teeth. If this translucency is undesirable, then longer teeth must be selected from which the translucent tips may be ground away. Molds with flat and smooth labial surfaces should be avoided since they tend to reflect light in such a way as to attract undue attention.

Since most persons needing dentures are of the age at which perfect dentition is rare, it is usually wise to reproduce in the artificial denture many conditions that are found in the mouth.

Often it will be found that there is a considerable variation in the shades of natural anterior teeth. When this variation of shades is imitated in the building of the denture, it will be found that the results are usually pleasing. Of course, extremes should be avoided. If anterior artificial teeth are used as they are carded and no change in color is made, it will be seen that in many mouths such teeth seem to lose their outline form and consequently lose their identity, resulting in an apparent fusion of the teeth especially in a bright light. However, a variation of shades brings out the individuality of each tooth.

After teeth have been selected which most nearly will meet the requirements of form, size and color, characteristic markings due to age and restorative dentistry must be provided by the dentist. The teeth may be contoured by grinding to simulate incisal wear, contact point abrasion and other identifying markings. It is easy to imitate off color synthetic cement fillings, stained enamel checks and stained roots by tinting and coloring with mineral oxides.

Irregularity in alinement and position may be attained by spacing, crowding, lapping and rotation, by varying the inclinations and by shortening the teeth. While these irregularities may be duplicated to an exacting degree it is not always desirable to do so as some may be quite displeasing. However, the patient's desires must be considered. Some patients have a definite dislike for anything but beautiful teeth, while others may insist on a faithful reproduction of their own natural teeth. Most individuals, however, will take an intermediate stand and will accept the dentist's advice.

Conclusion

It is the dentist's responsibility to build dentures that look natural, are efficient and preserve the mouth health. In many immediate denture cases it is not possible to duplicate a severe overbite without seriously lessening the efficiency of such dentures. Furthermore, the underlying supporting tissue may be permanently injured. However, it is often possible to duplicate, approximately, the arrange-

ment of the natural anterior teeth in relatively deep overbite cases if a complete study is made of the case so that all possible beneficial factors may be taken into consideration in the setting of the teeth. A careful examination of the mouth, including pre-extraction records, will nearly always permit a reasonably accurate forecast of what can be done in every immediate denture case. The dentist then may be specific in acquainting the patient with possible procedures and thereby eliminate future misunderstanding.—*4753 Broadway.*

USE OF POCKET GUIDES AND EXPANSION TO FACILITATE INSTRUMENTATION IN TREATMENT OF PERIODONTAL DISEASE

Abraham Berliner, D.M.D., Brooklyn, N. Y.

The essence of practicability in the treatment of periodontoclasia is the accomplishment of an arrest of bone destruction and reduction of pocket formation. This article will attempt to demonstrate a simplified technic of determining pocket depth and executing expansion for maximum visibility for instrumentation in the treatment of periodontal disease.

With the use of the generally accepted pocket explorers (instruments with relatively inflexible blades, graduated in millimeters), the operator must develop an extremely sensitive touch. The possibility of injuring or destroying the radiolucent, decalcified osteoid matrix, contiguous to the base of the soft wall of the pocket, is ever present, so that extreme caution and delicacy of manipulation must be exercised.

It is my purpose to urge conservation of this tissue and to demonstrate that no extraordinary digital skill is necessary with this simplified method.

The principal concern of pocket expansion is the accomplishment of complete and thorough removal of subgingival irritants. Expansion is particularly recommended in cases in which: (1) bone destruction has occurred approximately half the length of the root with slight gingival recession; (2) concave root surfaces with destruction of approximately one-fourth of the bone are present, and (3) bifurcations, dilacerations and irregularities of roots are revealed by roentgenograms.

Tenacious, fine, hard, smooth layers of foreign matter, root abnormalities or irregularities which embarrass instrumentation are exposed to view, precluding "blind scaling." Instrumentation in deep pockets that are relatively inaccessible should not trouble the operator after he has mastered the technic of expansion.

A clean field is a prime prerequisite for expanding a pocket. All supragingival debris and deposits of foreign matter must be removed carefully and the teeth polished. With this accomplished, a ribbon steel pocket guide is inserted into the pocket and roentgenograms are taken (Fig. 1). The steel pocket guides

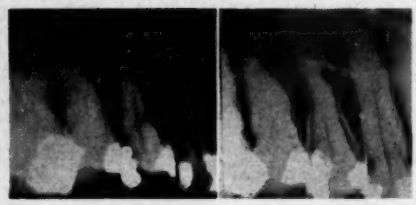


Fig. 1.—Before (left) and after (right) pocket guides have been placed in suppurating pockets

are inserted into suppurating pockets before roentgenograms are taken in order to: (1) guide the operator in directing the rays so that the pocket to be treated is located accurately and (2) define the gingival and alveolar crest levels, the difference indicating the exact depth of the pocket (Fig. 2).

Many pockets are missed during the roentgenographic examination because of their position or the malposition of an adjacent tooth. For example, bone destruction and pocket formation interproximally rarely can be misinterpreted; but similar pathologic aspects on the labial, buccal, lingual or palatal surfaces of the roots of teeth are undetected. On the roentgenogram the steel pocket guide throws into brilliant relief the shape and the continuity of the root surfaces, revealing convexity, concavity and other vertical or horizontal irregularities (Fig. 3).

The steel pocket guide has been found to be of particular aid in helping to distinguish between partially decalcified and completely decalcified bone. The only remaining vestige of the alveolar bone at the crest is the organic, almost radiolucent osteoid matrix. There is the danger of mistaking these fragments, in the roentgenogram, for deposits. An attempt to remove this rarefied process would, of necessity, result in complete loss of the alveolar bone in this region and lead to the possible mutilation of the cementum. Actually in successful treatment it is the recalcification of this osteoid matrix that is mistakenly referred to as "new bone growth" (Figs. 4 and 5).

In deep pockets such errors may be eliminated by the use of a pocket guide because it is so delicate. The apex of the pocket arrests the progress of the pocket guide (causing it to buckle slightly), thus accurately guiding the operator in limiting the depth to which instrumentation should be carried.

Technic for Making Pocket Guide

As an example in application, let us take a pocket on the mesial root surface of a lower central incisor. A piece of steel ribbon matrix material approximately the length and shape of the tooth is cut. It is placed, with its tapering end pointed toward the gingival aspect, into the orifice of the pocket. It is held firmly against the root surface while it is pushed slowly toward the apex of the pocket until contact causes it to buckle slightly. The free end is cut even with the incisal edge, the guide is removed and a narrow strip, extending vertically from the incisal edge to about a third the length of the guide, is cut. The guide is inserted into the pocket again, and the recently

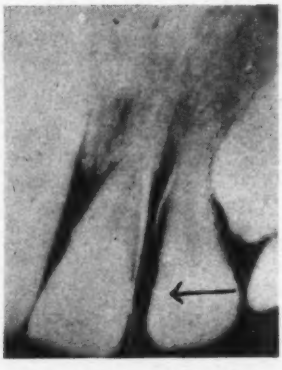


Fig. 2.—Steel pocket guides in position. Arrow indicates horizontal portion of pocket guide at gingival level

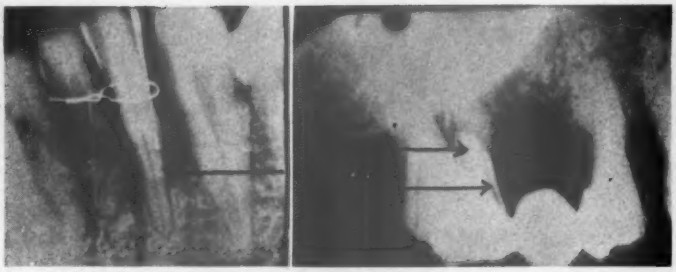


Fig. 3.—Left: Pocket guide in proximal and lingual pockets of a lower right lateral incisor. Right: Arrows indicate pocket guides in mesial and buccal pockets of molar

cut strip is bent parallel with the gingival line and is ligated to the adjacent tooth. These strips may be placed, in the same manner, in labial, buccal, lingual and palatal pockets. A roentgenogram should be taken at once. The distance between the apical end of the steel pocket guide and the bent strip at the gingival line indicates the exact depth of the pocket.

Pocket Expansion

After a roentgenogram has been taken, the pocket guide is removed. A piece of baseplate gutta-percha is cut to coincide with the width and length of the ribbon steel guide. The apical end of the gutta-percha is rounded off, dipped into eucalyptus oil and inserted into the pocket until it reaches the predetermined length indicated by the pocket guide. It is held firmly in position for about a minute and then ligated to the adjacent tooth. The surplus material above the ligature is removed and smoothed with a heated instrument at the orifice of the pocket. The gutta-percha is left in the pocket not longer than twenty-four hours. On removal of the gutta-percha, the deposits on the root surface are clearly exposed to view (Fig. 6). If sufficient visibility to effect satisfactory instrumentation is not accomplished after the first expansion or if persistent bleeding obscures the view, the pocket is again expanded, with two or even three thicknesses of baseplate gutta-percha either tied together or fused by heat.

Hypertrophic, spongy or flabby tissue may be expanded at the outset by the use of two or three thicknesses of gutta-percha. Cyanotic and congested tissues should be handled with greater deliberation. One thickness is recommended for the first twenty-four hours, and the thickness should be increased without undue haste until complete exposure of the root to the base of the pocket is accomplished. It must be emphatically stressed at this point that, if the gutta-percha is permitted to remain in the

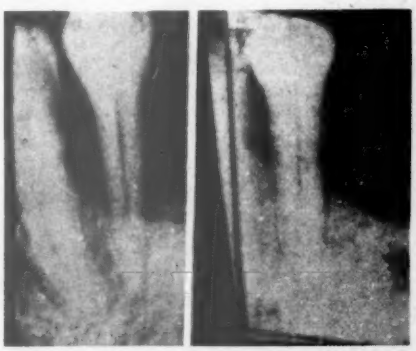


Fig. 4.—Before (left) and after (right) recalcification of osteoid matrix

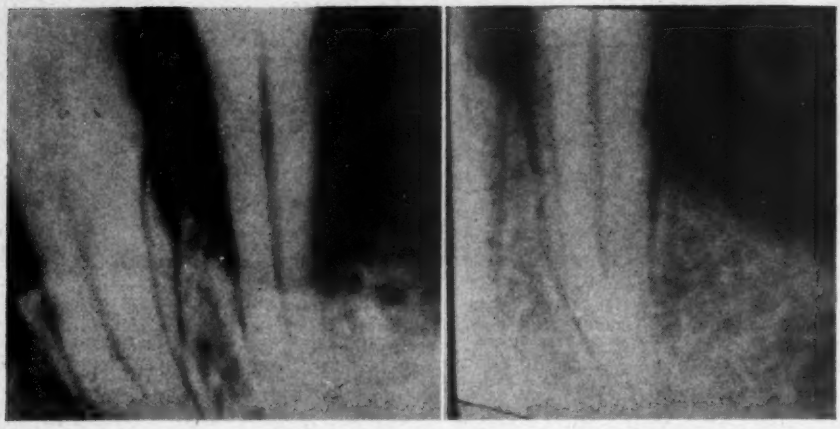


Fig. 5.—Left: Magnified view of Figure 4, left. Note the spongy, fragmented, radiolucent appearance of the alveolar crests. Right: Magnified view of Figure 4, right. Note the recalcification of the alveolar crests

pocket too long, recession and gingival atrophy may follow.

Although the results effected in a series of 63 cases cannot be interpreted as scientifically conclusive, it has been found that an interval of twenty-four hours will usually give adequate expansion without the hazard of recession or atrophy. In cases of extreme periodontal disease, gradual expansion may be carried on for from three to six days, one thickness of gutta-percha being added every twenty-four hours.

Summary

Accurate determination of pocket depth without injury to the underlying tissues is a prime prerequisite to instrumentation. The use of the ribbon steel pocket guide has been found a most effective diagnostic adjunct. The pocket guide requires a minimum of time to prepare, is painless to use and mitigates the possibility of injury to the epithelial attachment at the apex of the pocket.

Pocket expansion with the use of baseplate gutta-percha makes possible excellent vision for instrumentation, eliminates the need of "blind scaling" and repudiates the thought that extraordinary digital skill is essential for adequate instrumentation.—*Albee Theatre Building, 1 DeKalb Avenue.*

Fig. 6.—Left: Section of prepared baseplate gutta-percha ready to be inserted into the distal pocket of the lower right lateral incisor. Center: Baseplate gutta-percha in pocket, ready to be ligated into position. Right: Removal of baseplate gutta-percha from pocket, leaving an expanded pocket permitting increased visibility for instrumentation

THE Journal OF THE
AMERICAN DENTAL ASSOCIATION

AUGUST 1, 1947 • VOLUME 35 • NUMBER 3

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Published by the American Dental Association • 222 East Superior St. • Chicago 11, Ill.

EDITORIALS

THE ARMY DENTAL OFFICER'S RIGHT TO SPEAK HIS MIND

ONE of the greatest obstacles that has confronted the Committee on Legislation of the American Dental Association in its efforts to bring about improvements in the regulations that govern the Army Dental Corps has been the indisposition of many regular Army dental officers to testify regarding conditions under which they serve, an indisposition induced by fear of reprisals.

Such fears are groundless, according to Brig. Gen. John E. Dahlquist of the office of the Secretary of War. Testifying before the Subcommittee on Personnel of the House Committee on the Armed Services regarding the Army Promotion Bill, H. R. 2536, General Dahlquist asserted that, so far as the Army is concerned, both veterinarians and dentists have been told that "there are no restrictions on what you say . . . so far as the War Department is concerned we have not restricted them as to what they do or say or where they buy their materials." Qualifyingly he added, "Many times they must support War Department legislation because we cannot go in all directions at once. But when it comes to a matter of this kind I know of no instance where the War Department has prevented individuals from presenting their personal viewpoint."

Dentists who enjoy the freedom of civilian life cannot understand the disinclination of the Army officer to express publicly his personal opinions. Those who have served in the armed forces can. The Army officer is ruled by the same desires and influenced by the same ambitions as his civilian brother. He, too, has a family to support and children to educate. Under these pressures, he either conforms to regulations or resigns. Success in service depends on conformity. The Army officer knows that there are many and devious methods by which those who do not conform may be reprimanded. Rather than run the risk of such disciplinary action, he chooses to keep his opinions to himself and tolerates conditions that he knows should be corrected. With an understanding of all of this, it is difficult to criticize the

regular Army dental officer who in the past has refused to aid the efforts of the Committee on Legislation to improve the status of the Army Dental Corps.

General Dahlquist's assurance that dental officers may speak their minds freely regarding all matters pertaining to Army dental services is welcomed by the entire dental profession. It has cut the Gordian knot which has prevented regular Army dental officers from presenting evidence of conditions and inequalities that are known to exist in the Army Dental Corps and which must be corrected for the good of the service. All officers now may voice their personal opinions without fear of reprisal. According to General Dahlquist, they may talk now with impunity even before Congress.

DENTISTRY JOINS NATIONWIDE CAMPAIGN TO RELIEVE SHORTAGE OF NURSES

Representatives of the American Hospital Association have announced that the lack of graduate nurses is one of the most pressing health problems facing the country today. Some 32,000 hospital beds are not in use, primarily because of lack of nurses and other personnel. The Army alone needs, but cannot secure, 2,000 nurses to care for the thousands of persons with disabilities resulting from military service. County health units are hampered because of insufficient nursing personnel.

It is estimated that at least 100,000 graduate nurses are needed immediately. About 75,000 could be placed in hospitals and 25,000 in government and public health agencies, institutions, industry and schools. In an effort to improve this situation, the American Hospital Association and national nursing organizations have launched a nationwide campaign to enroll 45,000 students in the nation's 1,300 schools for nursing during 1947.

Although the dental profession is concerned because of the over-all shortage of nurses, it is particularly affected by the shortage of public health nurses. The public health nurse has long been one of dentistry's greatest allies in the field of public dental health. Without her intelligent and enthusiastic cooperation, few community dental health programs for children would be effective.

Now that the nation's attention is focused on the need for more nurses, attention should be focused also on the need for better nurses training, specifically better training in dental health. Unfortunately few training schools for nurses provide even rudimentary instruction on the health of the mouth. Consequently, few nurses can administer to the simplest hygienic needs of the mouths of their patients.

Dental caries is a common, if not the most serious, disorder that confronts the school or public health nurse. Therefore, every nurse, before entering the field of public health, should be informed on all matters relating to public health dentistry. The curriculum of every nurses training school should include a thorough course in dental health. Student nurses should be instructed adequately in dental anatomy, dental pathology and the prevention and treatment of at least the more common dental disorders.

Dentistry is sympathetic with the nursing profession's efforts to increase its personnel, and the dentists of the United States will join with other public spirited citizens to encourage capable young women to enter this invaluable branch of the healing professions. In addition, dentistry should encourage the administrators of the 1,300 schools of nursing to improve their students' ability to serve society by providing them with adequate instruction in dental health.

APTITUDE TESTING OF DENTAL STUDENTS

THE inauguration of the aptitude testing program for dental students, reported on page 175 of this issue of THE JOURNAL, marks another important step in the progress of dental education. Developed by a special committee of the Council on Dental Education and approved by the House of Delegates of the American Dental Association, the program was initiated during the past year in all forty dental schools in the United States.

Although a number of dental schools have experimented with aptitude testing procedures, this is the first attempt to conduct a scientifically designed dental aptitude testing program on a national basis. Furthermore, this is the first time that any profession has conducted a national aptitude testing program at no cost to the schools or students. This program is financed entirely by the American Dental Association.

The program consists of a series of tests designed to measure the scientific vocabulary of the student; his ability to express himself in writing; his ability to visualize patterns and relationships, and his digital dexterity. Each year these tests will be re-evaluated and new ones added. Several years must elapse before they will be perfected sufficiently to warrant their adoption by dental schools in the selection of freshman students. However, the results of the experimental program in the first year indicate that the tests provide valuable information regarding the type of students now entering dentistry. When perfected, the program will provide testing methods and procedures that may be used effectively in selecting students who will profit most from a dental school education.

The Council on Dental Education could not have chosen a more appropriate time to initiate an aptitude testing program. Dental schools are besieged with many more applicants than they can accommodate. The public is demanding more and better dental service. Since it is impossible with present facilities to increase materially the number of dental graduates a year, every worthy effort must be made to improve the quality of those who are graduated. One means to that end is the selection of students whose qualifications show them to be particularly adapted to the practice of dentistry. Obviously, a thoroughly capable dentist can render better service than one less qualified. The Council on Dental Education is to be commended for developing a procedure that will aid in providing better dental care for more people.

INTERNATIONAL CORRESPONDENCE

News from Great Britain

Received June 1, 1947

The Spens Committee

The Spens Committee, seeking information to enable it to recommend to the government a suitable scale of remuneration in a state dental service, has had a disappointing response (50 per cent) to its request to dentists individually for a statement of their income in 1936, 1937 and 1938. A second form has been sent to those who failed to return the first. A 90 per cent return was, and still is, hoped for.

Scale of Fees Dispute

No further developments have taken place in the dispute over the scale of fees. The members of the Incorporated Dental Society and the Public Dental Service Association have been advised by their associations to undertake National Health Insurance treatment, and the members of the British Dental Association and the Group Movement have been advised to refuse treatment under the scheme. Although the members of the British Dental Association and the Group Movement agree in principle to refusal, many are finding it difficult to maintain this attitude in practice. The majority of patients know little or nothing of the dispute and find it confusing to be denied treatment under the National Health Insurance scheme by one dentist when their friends are being treated under the scheme by a neighboring practitioner. The Southampton Group members, when accepting a patient under this scheme, enclose the following statement: "This dental letter is accepted by me in the interests of the insured person only, under protest and without prejudice to any negotiations proceeding now or in the future. Its acceptance *does not* imply agreement with the Government's offer of December 1946."

National Health Service Act

A joint meeting of the governing bodies of the British Dental Association, the Incorporated Dental Society and the Public Dental Service Association will be held on June 4 and 5. At this meeting information will be discussed indicating the present position of the dental aspects of the proposed regulations for the Health Service Act. This joint meeting is welcomed by the profession. It is essential that the associations should evolve a common policy, for many difficult and far-reaching decisions will have to be made in the coming twelve months; and none in the profession wishes to see a repetition of the confusion that existed, as the result of the lack of a single policy, in the dispute over scale of fees.

Comment.—No definite information about the regulations has yet been made public as the regulations have not been finally formulated. Discussions are taking place at the moment between the Minister of Health and the Consultative Committee. This committee is composed entirely of dentists, with proportional representation of the three dental associations, the British Dental Association having fourteen members and the Incorporated Dental Society and the Public Dental Service Association having seven each. This committee has a "contact" subcommittee of four members to meet the Minister. At the joint meeting of the three associations the present state of the negotiations will be announced. Under the circumstances, therefore, it is not possible to give any factual information. However, rumors which are circulating are passed on here to indicate how the state service appears to the average practitioner at the present time. Dilution and the possibility of the rejection in the grant-in-aid scheme of payment are the two main sources of concern.

Dilution started in a quiet and unassuming way during the war when the R.A.F. trained a few women as dental hygienists to scale and polish teeth and to give instruction in oral hygiene. When evidence was being prepared for the Teviot Committee, the possibility of using hygienists in a state dental service became an important matter for discussion. Soon the cry "No dilution!" was sounded by dentists throughout the country. The Teviot report advocated a controlled experiment, whereby a limited number of hygienists would be trained for use in clinics but not in private practice. If there was a shortage of dentists and the value of hygienists was established after a suitable trial period, then their numbers could be increased. Arrangements are well in hand now for the training of 300 dental hygienists. The

dental schools selected for training are Guy's Hospital Dental School and Manchester.

At the end of the Teviot report there was a reservation by Maj. Gen. John P. Helliwell advocating the training of dental mechanics to carry out clinical prosthetic procedures. This suggestion was noted with concern by many practitioners and it helped to increase the volume of the cry "No dilution!" Recently two members of Parliament have given hints that dilution by mechanics is a distinct possibility. Mr. Buchanan (Joint Undersecretary of State for Scotland) said he hoped that dentists would not think that an inroad on their profession was being made, if the government took the view that work in some directions should be given to skilled mechanics so as to relieve the dentists for more highly skilled work. Captain Baird (a dental surgeon as well as a Socialist member of Parliament) stated, during a Parliamentary discussion, that he believed that in time to come it might be necessary to bring mechanics into the state service to do surgical work.

On February 23 the mechanics formed the United Technicians Association in order that properly qualified technicians be allowed to practice their craft in the fullest manner to the public, without the supervision of a dentist, as suggested by Major General Helliwell in the Teviot report. In nine months this association hopes to have a membership of more than 5,000. Mr. Bevan, the Minister of Health, has promised to consider their recommendations if they represent the views of the dental mechanics as a whole.

It is rumored that there will be no grant-in-aid system, a method of payment which has the approval of all dentists. Since there is a great variation in the standards of practice, for example, the equipment and location of the dental office and the personal factors including the personality, skill, experience and qualifications of the dentist, and since a large number of patients will have to be treated by the dentists in their offices, many dentists will be unable to treat patients at the government scale of fees if it bears any relation to the present National Health Insurance scale. Under the grant-in-aid scheme, however, the patient knows that, depending on his selection of practitioner, his treatment will cost him nothing or the fee will be the dentist's usual fee less the scheduled amount recoverable by the dentist from the government; that is, there would be a minimum scale of fees. It is rumored, however, that the Minister seeks to impose a maximum scale as well. This would work as follows: If some special treatment is proved to be necessary, for example, a gold inlay instead of a plastic filling, or a bridge instead of a partial denture, the government will pay the entire fee up to the maximum scale for such special treatment. If the patient wants a gold inlay instead of a plastic filling when a plastic filling would be an adequate restoration, or if he wants a bridge when a partial denture would suffice, the government will pay only at the rate of the cheaper treatment, leaving the patient to pay the balance of the fee up to the amount of the government's fee for that type of restoration had it been essential treatment. If the dentist charges more, the patient loses all claim to government assistance and has to pay the entire fee himself.

New British Dental Magazine

Publication of a new monthly magazine, *The British Dental Digest,* was begun recently. The magazine does not digest British articles only, as may be thought from the title, but gives abstracts from dental literature of the world.

East Grinstead

Dental, oral and plastic surgeons serving in Britain during the war may have wondered what has happened to the Facio-Maxillary Unit at East Grinstead. There British, American and Allied dental officers attended courses of instruction in the treatment of injuries of the jaw. At the end of the war the hospital was assured of being a center of plastic surgery by the munificence of the British War Relief Society of America, which built a surgical wing as a war memorial gift to Britain. The Unit has benefited further by a recent gift from Sir Simon Marks, who has established three fellowships in plastic surgery valued at £740 ($3,700) a year, tenable for two years. The Plastic and Jaw Injury Unit at Hill End Hospital, St. Albans, is also established as a postwar center and it has been announced that there are two vacancies on the dental staff. The Plastic and Jaw Injury Unit at Bangour Hospital near Edinburgh, Scotland, is also established permanently and is closely associated with Edinburgh University. Already plans are being developed for postgraduate teaching in oral and plastic surgery at this center.—*John Boyes, University of Durham, Newcastle Upon Tyne, England.*

A. D. A. AFFAIRS

SET 45,000 GOAL IN STUDENT NURSE RECRUITMENT PROGRAM

Enrollment of 45,000 student nurses in the nation's 1,300 schools of nursing is the goal of the 1947 Student Nurse Recruitment Program being conducted by the American Hospital Association, Advertising Council, Inc., American Red Cross and national nursing organizations.

The objective of the nationwide campaign is to stimulate interest in nursing among young women about to choose a career and to inform them of the advantages and opportunities offered by this profession.

The causes given for the present shortage of nurses include the increased demand for hospital and nursing care, shorter periods of nursing duty, growth of Blue Cross and other prepaid hospitalization plans which facilitate use of hospitals, new demands for nurses in non-hospital fields and need for nurses in the armed forces and in veterans' hospitals.

Dental associations are urged to get in touch with nursing schools and hospitals in their areas for information on local nursing needs and recruitment programs.

JOHN F. KENNEDY TO ADDRESS ST. APOLLONIA GUILD MEETING

Congressman John F. Kennedy, son of former ambassador Joseph P. Kennedy, will speak at the banquet of the Guild of St. Apollonia, August 3, in the Hotel Puritan, Boston.

Msgr. Richard J. Cushing, archbishop of Boston, will also address the Guild, as previously announced in THE JOURNAL. Members and their friends who wish to attend should write to William H. Canavan, 47 Bay State Road, Boston.

PROGRAM ANNOUNCED FOR DENTAL EDITORS MEETING

Charles F. Harper, Jersey City, N.J., president, will address the opening session of the meeting of the Association of Dental Editors, August 2, at the Hotel Statler in Boston.

Guest speakers at the morning session will be Ray Kiernan, New England newscaster, formerly city editor of the Boston *Traveler,* and Harland Ratcliff, editorial writer for the Boston *Herald-Traveler* and head of the department of journalism, Suffolk University. Mr. Kiernan will speak on "An Editor's Responsibility," and Mr. Ratcliff's subject will be "Are We Meeting the Readers' Need in Professional Journalism?"

The afternoon session will be an open meeting with a discussion of the Conference of Dental Editors, under the direction of Walter L. Hyde, Minneapolis, chairman of the conference.

Dinner in the session room will open the evening meeting. G. P. H. Foley, editor of the *Journal of the Baltimore College of Dental Surgery,* will speak on the "Responsibilities of Dental Journalism." Grace Rogers Spalding, Birmingham, Mich., editor of the *Journal of Periodontology,* will review the activities of the Association of Dental Editors.

PROGRAM CHANGES FOR WOMEN AT BOSTON MEETING ANNOUNCED

A luncheon and afternoon boat trip around Boston harbor following the formal opening of the eighty-eighth annual meeting of the American Dental Association will replace the all-day boat trip to Plymouth previously scheduled for Tuesday, August 5, the Massachusetts Ladies Committee has announced.

The Ladies Committee will be at the

Hotel Statler Wednesday, August 6, to make arrangements for sightseeing and shopping tours. It is requested that all ticket reservations be made as early as possible.

MILITARY AFFAIRS COMMITTEE HOLDS OPEN SESSION, AUGUST 2

The Committee on Military Affairs of the American Dental Association will meet in open session August 2, from 9 a.m. to 4 p.m., at the Statler Hotel, Boston.

Those in attendance will discuss the current situation in the Dental Corps of the Armed Services, U.S. Public Health Service and Veterans Administration, as well as statements from the chiefs of the corps and others, in an effort to aid the committee in determining its recommendations for future action. An endeavor will be made to construct a program for improving the status of dental health services in the various governmental departments.

Other subjects to be discussed are the issuing of a questionnaire to all dental officers and the granting of certificates by the American Dental Association to all those who served in World War II.

Representatives of the military affairs committees of constituent and component societies are cordially invited to attend and participate in the session, according to an announcement by C. Willard Camalier, secretary.

BYLAWS COMMITTEE PLANS OPEN SESSION, AUGUST 3

The Committee on Constitutional and Administrative Bylaws of the American Dental Association will hold an open meeting, Sunday, August 3, at 2:30 p.m. at the Statler Hotel, Boston.

All members who are interested in the proposed revision of the constitution and bylaws are urged to attend.

COUNCIL ON DENTAL HEALTH PLANS ANNUAL WORKSHOP MEET

The Council on Dental Health of the American Dental Association at the conference to be held August 5, at the Hotel Statler, Boston, will initiate a program of presentation of annual reports by all councils on dental health and particularly on results in the various state dental workshops. Hugo M. Kulstad, chairman of the Council on Dental Health of the American Dental Association, will conduct the program.

At the coming meeting, there will be reports from the chairmen of the five state society councils, Ohio, New York, New Jersey, Louisiana and Georgia, where workshops have been held, giving a review of the program and the conclusions adopted by each group. Other state dental associations that will discuss their plans to inaugurate workshops are Connecticut, Massachusetts, Minnesota, South Dakota, Kansas and Illinois.

A.D.A. VISITORS WELCOME AT HARVARD DENTAL SCHOOL

The Harvard School of Dental Medicine will be open to visitors for a week before, as well as during, the eighty-eighth annual meeting of the American Dental Association in Boston.

Representatives of all clinical and research departments will be present to greet visitors. Exhibit material prepared by various departments will be on display in the laboratories and clinics.

INTERNATIONAL FEDERATION ANNOUNCES BOSTON MEETINGS

The *Fédération Dentaire Internationale* will hold two morning meetings, starting at 9 a.m. on Monday, August 3 and Saturday, August 9, at the Hotel Somerset, Boston, in addition to the meetings held in conjunction with the American Dental Association.

INDIAN DELEGATES INJURED IN SYRIAN DESERT PLANE CRASH

R. Ahmed and N. N. Bery, honorary general secretary, members of the delegation of the All India Dental Association to the Tenth International Dental Conference to be held in conjunction with the eighty-eighth annual meeting of the American Dental Association, were aboard the Pan American Clipper when it crashed June 19, in the Syrian Desert. Their injuries were described as moderate in a report from Dr. Bery. After receiving medical attention in London, the delegates planned to proceed by Pan American Clipper to New York on July 10.

HOUSING SHORTAGE COMPELS RESERVATIONS OUTSIDE BOSTON

Shortage of housing for the eighty-eighth annual meeting of the American Dental Association is now acute, according to a report from the Housing Bureau of the Boston Chamber of Commerce. The 3,000 rooms which had been reserved have been assigned, and accommodations, except for delegates, are exhausted.

The closest facilities available at present are in Worcester, Mass., and Providence, R. I. Transportation between Boston and each of these two cities is convenient. The train ride is approximately one hour each way.

It is suggested that members do not plan to attend the meeting without confirmed hotel reservations or other equally certain housing.

DENTAL SOCIETIES

BRAZILIAN DENTAL ASSOCIATION ANNOUNCES TEMPORARY ADDRESS

The Brazilian Dental Association, *Associacao Brasileira de Odontologia,* is temporarily located in Av. Rio Branco, 277-130 andar, sala 1310 in the Edificio Sao Borja, Rio de Janeiro.

The association requests that all correspondence be sent to this address.

ANNOUNCE ORAL SURGERY BOARD EXAMINATIONS, NOVEMBER 7-8

Examinations for certification by the American Board of Oral Surgery will be held November 7-8 in Chicago, according to an announcement by Howard C. Miller, president.

A complete outline of the requirements for certification by the board, as well as general standards that have been set up for all specialists in dentistry by the Council on Dental Education of the American Dental Association, will be found in the April 15 issue of THE JOURNAL.

Requests for application forms or additional information should be addressed to Leslie M. FitzGerald, secretary, 718 Roshek Bldg., Dubuque, Iowa.

ASH PATHOLOGY CLUB SENDS TEACHING MATERIAL TO DENMARK

A complete set of dental histopathologic slides for teaching purposes has been prepared and sent to the Royal Dental School in Copenhagen, Denmark by the D. D. Ash Dental Pathology Club of Washington, D. C. in an effort to promote international exchange of the knowledge of histopathology.

The slides were selected from material supplied by the Registry of Dental and Oral Pathology at the Army Institute of Pathology.

The American Dental Association, through its Committee on National Dental Museum and the Dental Registry, actively and financially supports the registry program at the Army Institute and thereby makes such material available to schools, study groups and individuals.

Retiring President and New Officers Congratulated by Kansas State Board

The retiring president and the newly elected officers of the Kansas State Dental Society received congratulations from the Kansas State Board. Standing, from left to right, are Herbert Bunker, Junction City; Clyde Tuttle, Wichita, president of Kansas State Board; Gordon Teall, Hiawatha, secretary of Kansas State Board, and Clinton Stalker, Topeka, president, Kansas State Dental Society; seated are M. A. Parott, Colby, newly elected president-elect, and A. E. Ricks, Atchison, retiring president

LATEST DENTAL SOCIETY ACTIVITIES AND MEETINGS

Colorado.—The new officers elected by the Colorado State Dental Association at the sixty-first annual meeting are A. J. Dooner, Pueblo, president; Miles R. Markley, Denver, president-elect; E. I. Varvel, Greeley, vice-president; Robert A. Downs, Denver, secretary, and Oliver H. Devitt, Denver, treasurer.

Connecticut.—The new officers of the Connecticut State Dental Association elected at the recent annual meeting were C. W. Vivian, New Britain, president; Henry T. Quinn, Greenwich, president-elect; Louis R. Siegal, Hartford, vice-president, and Earle S. Arnold, West Hartford, secretary-treasurer. Members elected to the executive committee were Leon C. Monks, New Haven, chairman; Ira Dow Beebe, Bridgeport, and Alan L. MacDonald, New London.

Indiana.—Officers elected at the ninetieth annual session of the Indiana State Dental Association were William Bogie, Vincennes, president; Herbert W. Mason, Indianapolis, president-elect; E. E. Ewbank, Kingman, secretary-manager, and Frederick C. Baker, Hammond, treasurer. Frank H. O'Halloran, Evansville, was elected executive committeeman; C. T. Mayfield, Kokomo, supervisor of clinics; W. P. McNulty, Fort Wayne, master of exhibits, and H. C. Dimmich, Fort Wayne, editor-in-chief.

Iowa.—Officers of the Iowa State Dental Society elected for 1947-1948 are Frank

B. Whinery, Iowa City, president; Harry G. Bolks, Sioux City, president-elect; Ivan Lemley, Ottumwa, vice-president; A. N. Humiston, Cedar Rapids, secretary, and L. C. Hemsworth, Waterloo, treasurer.

Mississippi.—The officers elected at the recent annual convention of the Mississippi Dental Association were E. M. Blackburn, Jackson, president; O. L. Colee, Magnolia, president-elect, and F. C. Sneed, Osyka, secretary-treasurer.

Registration and membership were the largest in the history of the association, according to a report by Dr. Colee.

Montana.—At the Montana State Dental Association meeting held in Missoula in May the following officers were elected for the coming year: W. L. Hunter, Helena, president; G. C. Taylor, Billings, president-elect, and C. S. Renouard, Butte, secretary-treasurer. E. A. Cogley, Great Falls, is superintendent of clinics, and S. P. Keane, Helena, superintendent of district societies.

The 1948 meeting of the Montana State Dental Association will be held in Great Falls, May 6-8, according to Dr. Renouard, secretary.

New Hampshire.—The 1947-1948 officers elected by the New Hampshire Dental Society are Edward F. Keane, Newport, president; Robinson C. Frost, Manchester, first vice-president; Robert E. Sargent, Bristol, second vice-president; Floyd E. Williams, Manchester, secretary, and Edward C. Godfrey, Dover, treasurer.

New Jersey.—The 1948 annual meeting of the New Jersey State Dental Society will be held April 20-23, at the Traymore Hotel, Atlantic City, according to an announcement by John G. Carr, secretary.

The new officers of the New Jersey Society of Dentistry for Children elected at the annual luncheon meeting held in conjunction with the seventy-seventh annual convention of the New Jersey Dental Society are John Campi, Asbury Park, president; Armand Rose, Montclair, vice-president; J. M. Wisan, Trenton, secretary, and E. de Monseigle, Asbury Park, treasurer.

North Dakota.—New officers of the North Dakota State Dental Association elected at the recent annual meeting are H. J. Nedrud, Minot, president; F. H. Gibbens, Jamestown, president-elect; A. L. Smeby, Northwood, secretary; H. H. Pfister, Wahpeton, treasurer, and R. A. Sand, Fargo, chairman of the Program Committee.

Oregon.—The new officers elected at the recent fifty-fourth annual meeting of the Oregon State Dental Association were John C. Bartels, Portland, president; J. Harold Rossman, Portland, president-elect; George W. Redpath, Portland, vice-president; Willard H. Hurley, Portland, secretary-treasurer, and Arthur F. Weeks, Portland, editor.

Pennsylvania.—The Greater Pittsburgh Dental Meeting sponsored by the Odontological Society of Western Pennsylvania will be held October 28-30 at the William Penn Hotel, Pittsburgh, according to W. Earle Craig, secretary.

New Officers of Missouri State Dental Society Plot Course for Coming Year

Newly elected officers of the Missouri State Dental Society, assembled at the joint Missouri-Kansas meeting recently to plan their program for the coming year, are, from left to right, C. W. Digges, Columbia, secretary; Reuben Rhoades, Jefferson City, president, and E. B. Owen, St. Louis, president-elect

South Dakota.—Newly elected officers of the South Dakota State Dental Association are H. C. Whitney, Wessington Springs, president; M. C. Babington, Rapid City, president-elect; Ernest W. Elmen, Sioux Falls, secretary, and R. W. Force, Estelline, treasurer.

The 1948 meeting of the association will be held May 9-11 at Sioux Falls, according to an announcement by Dr. Elmen, secretary.

West Virginia.—The new officers of the West Virginia State Dental Society elected at the recent annual meeting are C. H. Layman, Fairmont, president; Donzie Lilly, Athens, president-elect; W. W. Curry, Holden, vice-president; C. J. Gavelda, Clarksburg, secretary, and John S. Stone, Clarksburg, treasurer.

WORLD DENTISTRY

REFRESHER PROGRAM PLANNED FOR DP DENTISTS ABROAD

Three prominent leaders in American dentistry left for Europe by Pan American Airways June 29 to organize and present a series of refresher courses in modern dental technic for dentists among the Jewish displaced persons in Germany, Austria and Italy, under a program sponsored by the Joint Distribution Committee, an American agency aiding Jewish survivors overseas.

The instructors being sent by the committee are Samuel Hemley, chairman of the Department of Orthodontics, College of Dentistry, New York University; Max Pleasure, assistant professor of dentistry at the College of Dental and Oral Surgery, Columbia University, and George Stein, president of the Pathodontia Section of the First District Dental Society of New York.

Instruction centers will be opened in Rosenheim, Germany and in Milan, Italy. At Rosenheim, Jewish dentists from Austrian and German camps for displaced persons will be assembled by the Joint Distribution Committee in cooperation with the International Refugee Organization to attend lectures and clinical demonstrations. Lectures and discussions will include motion pictures and slides made available by the United States Army and Navy.

The program will include instruction in anesthesia, minor oral surgery, antibiotics in dentistry, general operative procedures and pedodontics, to be handled by Dr. Hemley; oral pathology, caries control and periodontal diseases, to be discussed by Dr. Stein, and prosthetic dentistry, which is the field to be covered by Dr. Pleasure.

EDWARD SAMSON IS HEAD OF BRITISH DENTAL ASSOCIATION

Edward Samson, newly elected president of the British Dental Association, took over his official duties the last week of June.

Dr. Samson is a private practitioner in Bournemouth, England and also holds several public dental appointments. He is the author of twelve books on dental subjects ranging from one on practice management to "The Immortal Teeth," a book which traces the role of the teeth in the history of mankind.

Probably best known as an essayist, Dr. Samson for a number of years has contributed illustrated essays on a variety of dental subjects in *The Dental Magazine and Oral Topics.*

FLUORINE THERAPY ADVISED BY CHINESE DENTAL BOARD

The National Dental Health Board of The National Health Administration, The Republic of China, in its monthly bulletin recently suggested the use of fluorine as the most satisfactory treatment available at present to reduce the problem of widespread dental caries in China.

The Board recommended the addition of fluorine to the city water supply and initiation of a public school program wherein all children might receive the benefits of either topical application of fluorine or any improved methods of treatment which might be advanced in the near future.

ARMY AND NAVY

GREAT LAKES OBSERVES FIRST ANNIVERSARY OF DENTAL CORPS

The Dental Department of the U. S. Naval Training Center, Great Lakes, Ill., on June 27 marked the close of its first year in operation as an integral unit under direct executive and administrative control of its commanding officer, Captain C. W. Schantz (D.C.) U. S. Navy.

The new administration program began after receipt of a letter from Secretary of Navy James Forrestal implementing Public Law 284 of December 28, 1945, quoted in part as follows:

An Act to provide more efficient dental care for personnel of the United States Navy. Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that: within six months after date of enactment of this act the Bureau of Medicine and Surgery shall be reorganized so as to provide for greater integrity of the Dental Service . . . an officer of the Dental Corps . . . shall be detailed as Chief of the Dental Division . . . On ships and shore stations dental services to be under the senior dental officer who shall be responsible to the commanding officer.

The Great Lakes Dental Department provides essential dental treatment for all recruits undergoing training in preparation for their assignment to the fleet. In addition, a program of treatment is provided for trainees in the specialized branches, especially in the fields of electronics, engineering and advanced naval science. Since the inauguration of the schedule of treatment, every company of recruits has been graduated with a record of 100 per cent completion of essential dental treatment.

All other personnel of the Great Lakes Naval Training Center, except those in the U. S. Naval Hospital, receive dental treatment in accordance with their needs, on request for appointment.

Great Lakes' Dental Technology Schools are prepared to train forty dental technicians (general) each month and ten dental technicians (prosthetic) every six months under an intensified program including instruction in the laboratory and operating room.

VETERANS

THOMAS J. POWERS TO HEAD CENTRALIA VA DENTAL UNIT

Thomas J. Powers has been named officer in charge of the dental unit of the Veterans Administration's subregional office in Centralia, Ill., replacing C. J. Koons who was transferred to the regional office in Chicago.

Dr. Powers is a veteran of four years' active service in World War II, including nineteen months overseas in the European theater. He was discharged with the rank of captain.

LEGISLATION

DENTAL RESEARCH BILL S.176 PASSED BY SENATE COMMITTEE

The Senate Committee on Labor and Public Welfare on July 1 approved the Dental Research Bill, S.176, and issued a favorable report recommending that it be passed. The bill was then placed on the calendar awaiting action by the Senate.

When enacted, this bill will provide $2,000,000 for the erection of a building to house the National Institute of Dental Research and will authorize an annual appropriation of $730,000 for dental research. A national advisory dental research council will be created to review research projects and to recommend grants-in-aid to universities, hospitals or other institutions, public or private, for research relating to dental diseases.

MEDICAL OFFICERS' PAY BILL APPROVED BY HOUSE COMMITTEE

The House Committee on Armed Services has reported favorably on the bill, H.R. 3851, designed to provide additional inducements to physicians, surgeons and dentists to follow their career in the Army or Navy.

Under the terms of the measure medical men now in the service and those entering in the next two years will receive an additional $100 a month over their regular pay and allowances. Those rated as specialists in various fields of medicine would, in addition, be given a 25 per cent increase in their base and longevity pay.

The committee adopted an amendment to extend to members of the dental profession the benefits provided for doctors, after it was shown that the Army and Navy will be short of dentists by the end of six months after termination of the war. The measure excludes young Army and Navy reserve doctors whose medical education was paid for by the government unless they enter the regular service.

HOUSE PASSES ARMY AND NAVY DENTISTS' PROMOTION BILL

The Promotion Bill, H.R. 3830, discussed in the report of the Committee on Legislation in this issue of THE JOURNAL was passed by the House of Representatives on June 25 and sent to the Senate.

It is anticipated that this bill will be passed by Congress before the end of the present session.

DENTAL EDUCATION

STATE UNIVERSITY OF IOWA HONORS JOHN G. HILDEBRAND

John G. Hildebrand, former president of the Iowa State Dental Society and vice-president of the American Dental Association, and for fifty-seven years a practicing dentist in Waterloo, Iowa, recently was awarded a distinguished service citation by the State University of Iowa, Iowa City. His was the only citation for dentistry among the one hundred awards made to distinguished alumni of the university.

The certificate read: "The State University of Iowa awards this certificate of accomplishment to John G. Hildebrand in proud recognition of his eminence in his chosen field and of his contributions to public welfare."

NEW YORK UNIVERSITY AWARDS TWELVE DENTAL PROFESSORSHIPS

In a ceremony June 18, Walter H. Wright, dean of the College of Dentistry, New York University, announced the promotion of six associate professors to full professorships and an equal number of assistant professors to associate professorships.

The new full professors and their departments are Gerrit Bevelander, histology; Earl O. Butcher, anatomy; Samuel Hemley, orthodontics; Louis William Max, physiology; Samuel Charles Miller, periodontia, and Isaac Neuwirth, pharmacology.

The new associate professors are Harold K. Addelston, dentistry for children; J. Lewis Blass, periodontia; George A. Buckley, denture prosthesis; David H.

Coelho, crown and bridge; Arthur H. Morrison, operative dentistry, and Sidney Sorrin, periodontia.

The twelve honored guests were introduced by other full professors of the faculty including Finn J. Bronner, Charles G. Darlington, Claus F. Hinck, Jr., George B. Wallace and Leo Winter. Each received a framed scroll from Dean Wright.

RECORD ATTENDANCE NOTED AT DENTAL TEACHERS MEETING

All previous attendance records were surpassed at the twenty-fourth annual meeting of the American Association of Dental Schools held June 23-25 at the Drake Hotel in Chicago. Approximately three hundred representatives from the forty dental schools registered for the conference.

Willard C. Fleming, dean, College of Dentistry, University of California, and chairman of the association, in his address to the general session affirmed the willingness of the dental profession to accept new responsibilities and objectives and to develop a program which would resolve them. In the present effort of dentistry toward control of dental disease, educational requirements have been increased to include a better understanding of the biologic framework and the medical sciences and a broader background of social and economic problems.

In a report on the discovery and evaluation of social trends during the past year, the Committee on Social Trends in Professional Relations placed special emphasis of the effects of such trends on the dental education and dental practice of tomorrow. New factors and forces confront dentistry, nearly all of which portend better oral health, and although some indicate a much greater consumer demand others promise a striking diminution of need for dental services for certain age groups.

Concerning the wide gap between the need and the effective demand for dental services, the committee warned that no great over-all reduction in the incidence of dental disease can be expected during the next few decades either through diet therapy or by means of one or both fluorine programs that seem to promise so much toward the reduction of caries incidence rates.

After the reports of committees, elections for 1947-48 were held. The new officers of the American Association of Dental Schools are: president, Arnold D. Mason, Toronto; president-elect, Roy J. Rinehart, University of Kansas City; vice-president, Gerald D. Timmons, Temple University, and secretary-treasurer, John E. Buhler, Temple University. Ernest G. Sloman, College of Physicians and Surgeons, was elected to the executive committee, and Bert L. Hooper, University of Nebraska, was reelected to the Council on Dental Education.

HONORS GIVEN TWO PROFESSORS AT WASHINGTON DENTAL SCHOOL

The United States Bronze Star medal was recently presented to Webb B. Gurley, professor of operative dentistry at the School of Dentistry, Washington University, St. Louis, in recognition of his meritorious services as chief of the dental service of the 21st General Hospital and as surgeon of the Seventh Army in the European theater of operations during World War II.

Ruth Martin, professor of dental pediatrics at the school, was selected in a poll for "St. Louis Women of Achievement."

ILLINOIS PROFESSOR CONCLUDES SOUTH AMERICAN LECTURE TOUR

Stanley D. Tylman, professor of prosthetic dentistry at the University of Illinois, College of Dentistry, has recently

returned from South America where he gave a series of lectures and clinics before societies, dental faculties and student bodies.

Dr. Tylman presented the series on the invitation of the Bolivian National Dental Association and the three universities at La Paz, Cochabamba and Sucre. The educational mission was also sponsored by the Office of Cultural Relations of the United States Department of State.

PEDODONTICS TEACHERS MEET AT NORTHWESTERN UNIVERSITY

A conference of the teachers of pedodontics of the dental schools of North America was held June 26-July 2 at the Dental School, Northwestern University. George W. Teuscher, professor of pedodontics and chairman of that department at Northwestern, was general director of the conference which was sponsored jointly by the Dental School and School of Education, Northwestern University.

Among the guest speakers at the conference were Allan G. Brodie, University of Illinois; Allen O. Gruebbel, American Dental Association; J. Roy Blayney, University of Chicago, and Robert G. Kesel, University of Illinois.

PUBLIC HEALTH

NINETEEN-YEAR DENTAL HEALTH RECORD HONORED

An award was presented at the June commencement exercises of St. Paul's Evangelical Lutheran School in Melrose Park by the Illinois State Department of Health in recognition of the fact that for nineteen consecutive years the school's eighth grade students had been graduated with mouth and teeth free from infection. This achievement is unequalled by any other school in the United States. Presentation of the award to H. Krafft, principal of the school, was made by Harry A. Hartley, president, Chicago Dental Society.

The school's program to achieve 100 per cent dental health was begun in 1929. Each child is examined periodically under the supervision of Paul A. Topel, Oak Park, and then is referred to his family dentist for necessary treatment. This is followed by a re-examination at school.

In the nineteen years during which the 100 per cent dental record was established, 1,064 students with perfect dental health have been graduated. Children of the lower grades have reached a 90 per cent perfect record.

GENERAL NEWS

ROBERT LE CRON, AMERICAN DENTIST, DIES IN LONDON

Robert Newcomer Le Cron, for thirty-nine years a practicing dentist in London, died suddenly, June 5, aged 66, as the result of a coronary thrombosis. He was apparently in good health and was to have sailed on the S.S. America the following day for the United States.

Born in the United States in 1880, Dr. Le Cron took his degree of D.D.S. at St. Louis University in 1902 and began practice in London in 1908.

He served with the Royal Navy Volunteer Reserve during World War I, 1914-1918, and received the Mons Medal. During the last war, he acted as liaison officer between American and British Dental Forces, spending much of his time with the Maxillo-Facial Centre at East Grinstead.

Well-known in England and on the continent, Dr. Le Cron was at one time president of the American Dental Society of London and the American Dental Society of Europe.

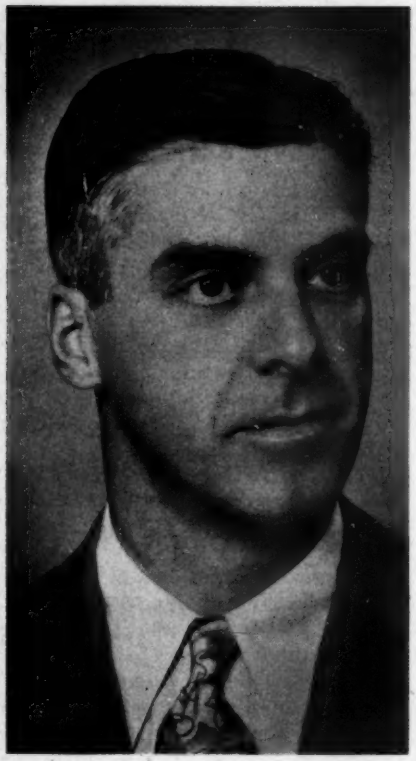
Dr. Le Cron is survived by his widow

and a daughter who are living in the United States.

SCIENCE TEACHERS WITH NSMR TO EXPLAIN ANIMAL EXPERIMENTS

The National Society for Medical Research together with the National Science Teachers Association will initiate a plan for education in elementary and secondary schools on the role of animal experimentation in medical research, the National Society for Medical Research has announced.

Tom Blakley, assistant secretary of the National Society for Medical Research, is at present working on final drafts of educational leaflets, and he reports that a joint committee of the two organizations will be set up in the near future to develop materials useful in teaching.



Arthur E. Neelley Resigns

Arthur E. Neelley, executive secretary of the Southern California State Dental Association, who has resigned his post after seven years in office. During Mr. Neelley's term as secretary, the headquarters of the association have expanded from two rooms to offices in a building recently purchased by the association

E. N. KENT DIES IN ROCKPORT, MASS.

Edward Newell Kent, former president of the American Academy of Dental Science, died at his home in Rockport, Mass., June 8, 1947, at the age of 72.

Dr. Kent was born in Newburyport, Mass., October 10, 1874. He was graduated from Harvard Dental School in 1900, later taught there, and remained an active alumnus long after his retirement.

A nationally known authority on dental economics and oral hygiene, Dr. Kent also contributed articles to dental publications.

ROLAND W. HARRISON ELECTED VICE-PRESIDENT AT CHICAGO

The election of Roland Wendell Harrison, dean of the division of biological sciences at the University of Chicago, as a vice-president of the university, effective July 1, was announced recently by President Ernest C. Colwell.

Vice-president Harrison succeeds Lawrence A. Kimpton, who has just resigned to become dean of students and professor of philosophy at Stanford University. Dr. Harrison, who has served as the top administrative officer in the division of biological sciences since 1943, will also become dean of faculties.

As an advisory editor of the *Journal of Infectious Diseases,* the newly appointed vice-president has done research and published various studies on influ-

Laboratory Men and A.D.A. Committee Meet at Conference

Representatives of two dental laboratory groups are shown conferring with members of the Committee on Prosthetic Dental Service of the American Dental Association at a national conference of state prosthetic dental service committee chairmen at the Stevens Hotel in Chicago, June 13-15. From left to right are (standing) Mr. Duncan Marshall, Detroit, president of the Dental Laboratories Institute of America; Harold W. Oppice, Chicago, American Dental Association trustee and conference chairman; Mr. Adolph Froehlke, Oshkosh, Wis., representing the Federation of State Dental Laboratory Organizations, and (seated) Henry O. Lineberger, Raleigh, N.C., chairman, and Carl O. Boucher, Columbus, Ohio, secretary of the Prosthetic Dental Service Committee of the American Dental Association

enza, trachoma, bacterial dissociation, dental caries and immunology. He is a member of the American Association for the Advancement of Science, Society for Experimental Biology, Association of Immunology, Public Health Association and International Association of Dental Research.

DONAL SHEEHAN APPOINTED HEAD OF COMMONWEALTH FUND

Donal Sheehan, professor of anatomy and lately acting dean of the College of Medicine, New York University, has been appointed general director of the Commonwealth Fund in New York.

Dr. Sheehan succeeds Barry C. Smith, who will retire from the directorship on September 1.

JOURNAL EDITOR ADDRESSES DENTAL MANUFACTURERS GROUP

"Public Relations and Dental Health Activities" was the subject of a talk presented by Lon W. Morrey, editor of THE JOURNAL, at the fifteenth annual meeting of the Dental Manufacturers of America, held recently at Lake George, Bolton Landing, N. Y.

William Thompson, Office of International Trade, Department of Commerce, Washington, spoke on "The Dental Industry and International Trade." Among other topics discussed during the meeting were manufacturers' policy on returns and adjustments, the importance of a firm and sensible credit policy and direct dental sales promotion.

COMMITTEE ON LEGISLATION

AMERICAN DENTAL ASSOCIATION REQUESTS INCREASED PAY FOR DENTISTS IN ARMY, NAVY AND PUBLIC HEALTH SERVICE

At a hearing held on June 6 by the Subcommittee on Pay and Administration of the Committee on the Armed Services of the House of Representatives, the American Dental Association requested that additional remuneration of $100 a month be given to all dental officers in the Army, Navy and United States Public Health Service.

Two bills, H.R. 3174 and H.R. 3254, would increase the pay of physicians in the Medical Corps of the Army and Navy in the sum of $100 per month. At the hearing the American Dental Association requested that these bills be amended to provide an equal increase for the dentists.

The American Dental Association told the Congressional committee that the heavy cost of a dental education in time and money makes it unremunerative for dentists to enter on a permanent career in any of the armed services. The Association also pointed out that a comparison of the present salaries of dental officers with the incomes earned in private practice makes a career in the Army or Navy Dental Corps unattractive. Both the Army and Navy are finding it extremely difficult to retain or to procure dental officers for regular active duty, and present conditions require that Congress enact proper legislation to remedy this situation.

The statement prepared by the Committee on Legislation expressing the attitude of the American Dental Association regarding increased pay for dental officers is as follows:

My name is Dr. Karl H. Metz. I have been engaged in the practice of dentistry in the city of White Plains, N. Y., for the past twenty-seven years, approximately, except for a continuous period of five and a fourth years I served in the armed forces, with extended active duty in the continental United States, including the Dental Division of the Surgeon General's Office, U. S. Army and in the European-African-Middle East Theaters of Operation. I served for approximately three years overseas in the following capacities: Dental Officer Staff, Dental Consultant, Chief of Dental Service; Executive Officer, Medical Section, Production Control Agency G-4 Division SHAEF, attaining the rank of colonel, Dental Corps, U. S. Army, as of April 3, 1945, in France.

Since May 1, 1946, approximately, I have been a member of the Advisory Committee to the Veterans Administration for the Dental Society of the State of New York, and have served as chairman of the Veterans Guidance Committee, or Military Affairs Committee, of the same society, a component of the American Dental Association.

I hold currently a commission as colonel, Dental Reserve Corps, U. S. Army, and will complete thirty years of service (active and inactive duty status) on November 20, 1947. Active duty has been had in both World War

I and World War II, as well as peacetime service in the interval between both wars.

I am presenting this statement on behalf of Carl O. Flagstad, chairman of the Committee on Legislation, American Dental Association.

The American Dental Association wishes to support H.R. 3174 and H.R. 3254, which will grant medical officers in the Army and the Navy additional remuneration. The services of the medical officers are absolutely essential to the health welfare of the armed services. Therefore, it is highly important that adequate corps of medical officers are continually on duty with the Army and the Navy. Since the problem of retaining qualified medical officers in the service and of securing additional officers to fill existing vacancies has become extremely acute, this legislation should be enacted to help solve the problem. The American Dental Association, cognizant of the medical officers' importance to the military services, emphatically endorses immediate enactment of these bills.

However, we desire to call the Armed Services Committee's attention to the fact that a similar situation exists in the Dental Corps in the armed forces. The heavy cost of a dental education in time and money, together with the demand for dental service in civilian life, makes it unremunerative for dentists to enter on a permanent career in any of the armed services. A comparison of the present salaries of dental officers, especially those in the lower ranks, with incomes earned in private practice indicates that the selection of a career in the Army and Navy Dental Corps is unattractive.

It has proved to be impossible, under existing conditions, to retain and to procure dental officers for regular active service in the Navy in sufficient number to provide necessary dental care for the naval personnel. An effort was made last year to fill over 700 Naval Dental Corps vacancies through transfer of reserve officers and by new appointments from civilian dentists to the corps. Only one vacancy was filled from the latter source. The number obtained by transfer of reserve officers was insufficient to compensate for losses by resignation. The prospect this year is even less encouraging. More than one-half of the dental officers on active duty are reserves. Upon termination of the national emergency or at completion of their specified length of service, all reserve officers being retained involuntarily must be released. The Navy Dental Corps then may have less than one-half the number necessary to meet requirements. A more critical situation exists in regard to the Army Dental Corps. The requirements for dental officers for the Army for 1947 and 1948 are 2,000. As of March 31, 1947, the number on duty was 2,000. This will be reduced to 1,500 by December 31, 1947, and by September 30, 1948, the total number on duty will be only 550, making a shortage of nearly 1,500, unless some additional inducement is provided to ensure a larger number of applicants. Under present conditions, the Army has made urgent appeals to young graduates of dental schools to accept commissions, without any appreciable results. As an example of how critical it is to obtain dentists, when replacements were necessary after V-J Day, Selective Service for the first time in history, at the request of the War and Navy Departments, used all of its persuasive measures in an effort to induce 1,500 dentists to enter the service. Only 900 were secured. The Navy, although short of dental officers itself, at that time loaned 800 to the Army. When the two years' period of time for these officers and others has expired, the Army will be in a most difficult situation.

On the average, the cost of a dental education is greater than the average cost of other professions. The tuition fee for dentistry, as in medicine, averages higher than for other professions, and, in addition, the dental student must purchase an expensive set of dental instruments. The student is also required to purchase textbooks and supplies for use while in school.

The minimum requirement for entrance into a dental or medical school is two years of predental or premedical education. However, a majority of students in both dental and medical schools have had more preprofessional years in college than the minimum requirements. Graduates of medical and dental schools can secure their internship in the armed forces with full pay and allowances as commissioned officers. This means that in such instances both dentists and physicians who have had a full four-year course of preprofessional schooling have each had nine years of training at the completion of their internship.

The Dental Corps of the Army and Navy are an integral part of the Medical Department, with the Surgeon General, a physician,

as chief and director of the department or bureau. It has always been the opinion of the various Surgeons General that medicine and dentistry operate most efficiently as a single unit in rendering health service in the armed forces. The salary scale for medical and dental officers in like rank has always been the same. The American Dental Association is concerned that any disparity in salaries between the two corps will be detrimental to the maintenance of an efficient and adequate Dental Corps.

The compensation offered by an Army or Naval career, as compared with the income available in civilian life, is one of the principal factors which influence potential candidates against accepting appointment in the Dental Corps. It is, therefore, imperative that inducements be offered to avoid further losses from the active duty ranks and to attract candidates from civilian sources in sufficient number to bring the Dental Corps up to required strength at the earliest possible time.

Increase of dental officer's pay by $100 per month undoubtedly would be an effective step toward maintaining a satisfactory dental service in the Army and Navy. Experience clearly indicates that, without such an inducement, it will be difficult to secure dentists to adopt careers in the Dental Corps, and consequently the important health services provided by members of this corps will be very seriously impaired.

The American Dental Association, motivated by its concern for the dental health of all American citizens, respectfully requests that increased compensation be provided for officers of the Dental Corps of the Army and Navy through appropriate amendment and enactment of H.R. 3174 and H.R. 3254.

Information received from the United States Public Health Service indicates that the situation respecting the Dental and Medical Corps in that Service is likewise critical, and the Association is of the opinion that appropriate measures should be taken by the Congress to assure like treatment to medical and dental officers in that Service.

Requested Amendments to Title I of H.R. 3174

Change heading to read:

A Bill

To provide for the procurement of physicians, surgeons, and dentists in the Medical Department of the Army, and for other purposes.

Insert the words "and Dental" next after the word "Medical" in the following listed pages and lines:

Page 1, lines 9, 10, 11.

Page 2, lines 2, 8.

Requested Amendments to Title I of H.R. 3254

Change heading to read:

A Bill

To provide additional inducements to physicians, surgeons, and dentists to make a career of the United States Naval Service, and for other purposes.

Insert the words "and Dental" next after the word "Medical" in the following listed pages and lines:

Page 1, line 3.

Page 2, lines 1, 3, 5, 8, 11 and 17.

ARMY AND NAVY BILLS AMENDED TO GIVE RANK AND PAY EQUAL TO OTHER CORPS

The promotion bills, H.R. 2536 (Army) and H.R. 2537 (Navy), were amended by the Committee on Armed Services of the House of Representatives to give the officers of the Dental Corps in each service an opportunity for promotion equal to that of any of the other staff corps. The two bills have been redrawn and combined into one bill, H.R. 3830. The new bill provides that there shall be four permanent rear admirals in the Dental Corps in the Navy and four gen-

eral officers in the Dental Corps in the Army, two of whom shall be brigadier generals and the other two may be major generals.

The bills as drawn by the War and Navy Departments, and as introduced into Congress, would have limited the Dental Corps in the Navy to one rear admiral and in the Army to one major general. This would have restricted severely the right of dental officers in either service to attain flag rank and would have had a harmful effect on the morale of all dental officers. The American Dental Association strongly protested against legislation that would deny to dental officers the right of equal opportunity with other officers to attain flag rank.

The two pay bills, sometimes called the bonus bills, H.R. 3174 (Army) and H.R. 3254 (Navy), as introduced, would have given a $100 per month increase in pay to medical officers only. The House Committee on Armed Services corrected this inequality by amending both bills to give a similar increase to the dental officers in the Army, the Navy and the United States Public Health Service. These two bills have also been redrawn and combined into one bill, H.R. 3851. The American Dental Association explained to the House Committee that, although the present severe shortage of physicians in the armed services, as well as other factors, warranted an increase in pay for physicians, a similar situation existed in the Dental Corps and that a like increase for dentists was necessary. Last year the Navy sought to fill more than 700 vacancies in the Navy Dental Corps and was able to fill just one vacancy from the ranks of civilian dentists. At the same time the transfer of reserve officers was insufficient to compensate for losses by resignation. A critical situation also exists in the Army Dental Corps. It needs 2,000 dental officers and by the end of 1947 it will have about 1,500. By September 30, 1948, it will be reduced to about 550 officers on active duty, unless something is done to increase its strength.

Both the Army and the Navy Dental Corps are now composed in part of reserve officers who are being retained involuntarily and who must be released either at the termination of the national emergency or at the completion of their specified term of service. It is essential that both Dental Corps be given opportunity for promotion, salaries and recognition equal to that of any other staff corps in order that they may be able to render the highest possible standard of dental service to the personnel of the armed services.

The Committee on Legislation wishes to express its thanks to the members of the House Committee on Armed Services for the thoughtfulness and the consideration which they gave to the suggestions made by the American Dental Association regarding the promotion bills and the pay bills for the armed forces. Their vote to give dental officers an opportunity for promotion and a pay increase equal to that of any of the other staff corps will be gratefully appreciated by members of the dental profession in civilian practice as well as those who are in the armed forces.—*George H. Fox, Secretary.*

The members of the House Committee on Armed Services are as follows:

Republicans: Walter G. Andrews, New York, chairman; Dewey Short, Missouri; Leslie C. Arends, Illinois; W. Sterling Cole, New York; Charles R. Clason, Massachusetts; J. Parnell Thomas, New Jersey; George J. Bates, Massachusetts; Paul W. Shafer, Michigan; William E. Hess, Ohio; Charles H. Elston, Ohio; Jack Z. Anderson, California; William W. Blackney, Michigan; Margaret Chase Smith, Maine; Leroy Johnson, California; Harry L. Towe, New Jersey; C. W. (Runt) Bishop, Illinois; Leon H. Gavin, Pennsylvania, and Walter Norblad, Oregon.

Democrats: James E. Van Zandt, Pennsylvania; Carl Vinson, Georgia; Patrick H. Drewry, Virginia; R. Ewing Thomason, Texas;

Overton Brooks, Louisiana; Lyndon B. Johnson, Texas; Paul J. Kilday, Texas; Carl T. Durham, North Carolina; Lansdale G. Sasscer, Maryland; James J. Hefferman, New York; L. Mendel Rivers, South Carolina; Robert L. F. Sikes, Florida; Philip J. Philbin, Massachusetts; Edward F. Hebert, Louisiana, and Arthur Winstead, Mississippi.

TESTIMONY OF AMERICAN DENTAL ASSOCIATION AT HEARINGS ON NATIONAL HEALTH BILL, S. 545

On May 29 at a hearing before the Subcommittee on Health of the Senate Committee on Labor and Public Welfare, the American Dental Association testified in regard to the National Health Bill, S.545, which was introduced into the Eightieth Congress by Senators Taft, Smith, Ball and Donnell.

The testimony of the American Dental Association was presented by Carl O. Flagstad, chairman of the Committee on Legislation, and Sterling V. Mead, president of the American Dental Association.

Dr. Flagstad called special attention to the need for dental research and discussed the research provisions in S.545 and in S.176, the dental research bill sponsored by the American Dental Association. Dr. Flagstad also pointed out that in the opinion of the Association S.545 should be amended to give the individual states greater freedom to develop an optimum state-wide dental health program in accordance with existing dental personnel and facilities.

Dr. Mead pointed out that the question of the present shortage of dentists may be overemphasized since recent developments in dental research and especially in the use of fluorine in the drinking water may decrease the problem of dental operative treatment to such an extent that the normal increase in dental man power may be sufficient to meet the problem. He emphasized that the development of dental health programs should be coordinated with information that may be secured through dental research.

Both Dr. Flagstad and Dr. Mead reiterated the opposition of the American Dental Association to compulsory health insurance.

The formal statement presented by Dr. Flagstad in behalf of the American Dental Association is as follows:

My name is Dr. Carl O. Flagstad. I have been engaged in the practice of dentistry in the city of Minneapolis, Minn., for the past thirty-five years. I have been a member of the Committee on Legislation of the American Dental Association since 1935 and have been chairman of the Committee for the past three years. The House of Delegates of the American Dental Association has given the Committee on Legislation the authority to represent the Association at Congressional hearings.

The American Dental Association has a membership of 63,000 dentists, which constitutes 80 per cent of the 78,000 dentists registered in the United States. The Association has fifty-eight constituent societies comprising all of the forty-eight states, the District of Columbia, each territory and possession, and the Army, the Navy, the United States Public Health Service and the Veterans Administration. Within the constituent societies there are 440 organized district dental societies located in all parts of our country. Each constituent society annually selects delegates as voting members at the sessions of the House of Delegates, which is the policy-making body of the American Dental Association.

For many years the American Dental Association has been supporting dental research for the benefit of the public out of funds of

the Association. The American Dental Association has created and maintains fellowships at the Bureau of Standards and at the National Institute of Health. It also maintains a Research Commission at the Army Medical Museum and has supported dental research in many other ways.

These research projects are a part of the over-all objective of the American Dental Association to improve the dental health of the public. Our experiences during the past twenty years have demonstrated that the funds of the Association together with the funds that have been furnished to us from private, endowment and governmental sources have been grossly inadequate in comparison to our present needs for dental research.

Since the benefits that will develop from a more extensive research program will be of benefit to everyone, we believe that the federal government should support dental research with federal funds.

The American Dental Association appreciates this opportunity of presenting its viewpoint concerning the National Health Act of 1947, S.545.

The authors of this proposed legislation are to be commended on their efforts to produce an over-all health bill which is more nearly in accord with our professional concept than any previous comprehensive health bill hitherto introduced into Congress.

The Committee on Legislation has made an exhaustive study of this bill and, although it finds that many phases of the proposed legislation are in accordance with principles adopted by the American Dental Association, there is considerable concern as to whether the dental profession could carry out a program as extensive as provided by the bill. Since many of the states would need to develop the mechanism for carrying out a state-wide dental program, it is doubtful as to whether they could set up the organization and recruit the necessary man power within the specified time. Therefore, the American Dental Association suggests a series of amendments which would give the states more latitude and permissive arrangement so that they could set up programs in accordance with their ability to carry them out and still be entitled to federal funds as grants-in-aid.

The American Dental Association has recorded its stand on some of the basic philosophy of S.545 as follows:

I. The American Dental Association is in accord with the principle of a federal grants-in-aid system to aid states in meeting their health needs. On the basis of this principle we had introduced into the Seventy-Ninth Congress a "Dental Grants-in-Aid Bill," S.1099, for experimental programs in all phases of dental health. At the hearings last year on the Wagner-Murray-Dingell Bill, S.1606, we made this statement in support of the grants-in-aid principle: "The American Dental Association believes that the grants-in-aid system has been effective in meeting certain health needs under the Social Security Act. The American Dental Association believes this system should be enlarged to meet all health needs and that there is no necessity for enacting a national compulsory prepayment plan."

II. The American Dental Association is in accord with the principle that dental health programs for children should be our major concern and that federal funds as grants-in-aid to states should be available first for the dental care and treatment of children whose families are unable to pay the whole cost of such care.

The American Dental Association further approves the principle that the responsibility of a dental health program shall rest with the state and its communities. The state should determine the plan and have complete supervision of the dental health program within its state.

The American Dental Association has adopted four principles as being basic and fundamental in a dental health program for the American people. The third principle of this program is in reference to dental care.

Principle 3. "Dental Care.—Dental care should be made available to all regardless of income or geographic location. Programs developed for dental care should be based on the prevention and control of dental diseases. All available resources should first be used to provide adequate dental treatment for children and to eliminate pain and infection for adults. Dental health is the responsibility of the individual, the family and the community, in that order. When this responsibility, however, is not assumed by the community, it should be assumed by the state and then by the federal government. The community in all cases shall determine the methods for providing service in its area."

"A Dental Health Program for the United States," a bulletin issued by the American Dental Association, states:

"Responsibility for Dental Care.

"The responsibility for providing dental care must be borne in the same manner as the responsibility for providing food, shelter or any other essential of life. It is the American custom and tradition for the individual to attempt to supply these things for himself. If he cannot do so, the responsibility falls on the family, the community, the state and the nation successively. If each assumes an equitable share of responsibility, the problem of better dental health in this country is on the way to solution."

III. The American Dental Association is in accord with the principle as stated in the bill, "to coordinate the health functions of the federal government in a single agency." The House of Delegates in 1938 went on record as favoring the establishment of a Department of Health in the federal government under the supervision of a secretary, a physician, who would be a member of the President's Cabinet with an assistant secretary, a dentist, to be director of dental health. The National Health Agency is apparently created in lieu of a Department of Health. The American Dental Association believes that coordination of the health activities of the federal government is desirable, but would favor a Department of Health rather than the National Health Agency, as S.545 provides, for the following reasons:

A. The health of the nation is of such paramount importance that it should occupy the place of greatest prominence in our government. A Department of Health would have more prestige than a National Health Agency.

B. It is desirable for the director of health activities to have direct access at all times to the President and to participate in the deliberations of the President's Cabinet. In times of national emergencies such as war, calamities and health crises, this contact would be especially valuable.

IV. The American Dental Association endorses Title IX of S.545, "Dental research and new construction for dental research," for its provisions are substantially the same as those contained in research bills S.190 of the Seventy-Ninth Congress and S.176 of the present Congress sponsored by the American Dental Association.

The American Dental Association's first principle as being basic and fundamental in a dental health program for the American people states: "1. Research: Adequate provisions should be made for research which may lead to the prevention or control of dental diseases."

In the opinion of our Association, this is the most important dental health legislation under consideration by Congress. The dental profession is grateful to the Committee on Labor and Public Welfare for the splendid support it has given our Dental Research Bills. In the Seventy-Ninth Congress the bill was unanimously passed by this committee and subsequently by the Senate, but became stalled in the House because of "must legislation." It is our hope that the full committee will soon consider S.176 and pass it on to the Senate with the committee's unanimous endorsement.

If S.176 should progress in Congress prior to S.545, Title IX could be eliminated as it is practically a duplication of S.176. The American Dental Association is grateful to the authors of the National Health Act for including the dental research provisions in their bill, as it indicates their approval and gives emphasis to the importance of the necessity for enacting such legislation. Adequate facilities for carrying on dental research are essential in our endeavors to control and prevent the ravages of dental disease.

Dental Health Limitations of S. 545

There are certain limitations in the National Health Act on the use of federal funds as grants-in-aid which, if liberalized, would make it possible for a state to set up more adequate and complete dental health programs.

I. S. 545 makes no provision for dental health education. The American Dental Association's second principle states: "2. *Dental Health Education*: Dental health education should be included in all basic educational and treatment programs for children and adults."

There is no definite provision in S. 545 for the inclusion of dental health education in the state dental health programs. A complete dental health program should contain dental health educational activities in order to motivate people to take care of their teeth and of their children's teeth and to utilize present methods of prevention for controlling dental diseases. The American Dental Association

has long advocated that dental health education, especially for children, should be a part of every dental health program.

It is our opinion that a program of dental surveys and dental inspection and even dental care will be more effective if it is augmented by an intensive program in dental health education. Many dental health programs already exist in various states and communities, but most of them have been handicapped by a lack of adequate financial support. Since the National Health Act sets up provisions for a statewide dental health program, there will be the problem of reaching many rural districts with dental health education which now have no facilities for such programs.

II. Since the establishment of a statewide dental program in accordance with the provisions of S. 545 will be a pioneer venture in many of the states, it will be an extremely difficult task to develop these programs and place them into operation throughout a state. It would seem feasible during the period of development and planning that various programs could be in progress in designated areas of the state from which valuable information could be accumulated to be used in setting up a statewide program.

Difficulties in Operation

Title VIII, Part A, would appropriate $1,000,000 of federal funds to be distributed to the states to assist each participating state to make a statewide survey and inventory of existing dental care. The information thus obtained would be used in the development of a statewide dental health program. This is a desirable provision as it is sound administrative procedure to make a thorough study of existing conditions as a basis for the formulation of a future program. However, the survey will require considerable time and dental man power to complete. There is some concern as to whether all states could undertake such a project in the immediate future, since the dental profession is extremely busy endeavoring to catch up on the backlog of dentistry accumulated from the war years when there was an extreme shortage of dentists.

Title VIII, Part B, 812 (4), of the National Health Act of 1947 provides that federal funds will be available to assist states in carrying on "a statewide program designed and calculated within five years to provide for the periodic inspection of the teeth of all children in the elementary and secondary grades of public and non-public schools," and the rendering of dental care services to those children whose families are unable to pay for such costs.

This provision as stated at present is a difficult assignment for some states to fulfill, for to set up a statewide program and to recruit the necessary dentists and to train sufficient personnel to assist in carrying out the dental services suggested would be almost impossible with their present dental man power, especially within the five year period. It is this section of the bill which should be amended if the task is to come within the possibility of performance. We shall submit for the records factual data indicating the size and expense of carrying out this provision of Title VIII, Part B.

Title VIII, Part B, also provides:

1. "Such programs may also at the option of the state provide dental care for those families and individuals in the state having insufficient income to pay the whole cost of such services."

2. "Such programs may include payments to dentists practicing in areas which, without such payments, would be unable to provide sufficient income to attract a practicing dentist."

3. "Such programs may provide for the training of personnel for state and local public health work in dentistry."

These are commendable permissive arrangements for the states, but the problem at present is whether there are sufficient dentists and other personnel available to carry out these projects although the money might be available.

Provisions for Professional Advice

The American Dental Association's fourth principle states:

4. "In all conferences that may lead to the formation of a plan for dental research, dental health education, and dental care, there should be participation by authorized representatives of the American Dental Association."

The authors of S.545 have recognized the importance of this principle.

It is our opinion that the following provisions contained in the bill will be valuable in developing and indicating the direction of statewide dental health programs.

1. The Director of Office of Dental Care Services in the National Health Agency to be a Doctor of Dental Surgery with at least ten years of active practice and outstanding in the field of dentistry.

2. A National Dental Health Council consisting of a director as chairman and six members appointed by the administrator. The appointees shall be engaged in dental health work and at least four shall be Doctors of Dental Surgery with not less than ten years of active practice and licensed to practice in one or more states. The other two members must be familiar with the needs of dental care in urban and rural areas.

3. A State Dental Health Advisory Council to be appointed by the governor which shall include representatives of the state dental associations.

Summary

1. The American Dental Association is of the opinion that a federal grant-in-aid system to states for health programs is desirable and effective.

2. The American Dental Association does not have a complete answer to the problem of providing dental health for the people of every state and believes that each state should have more freedom to develop its own program.

3. The American Dental Association believes that increased facilities for dental research are essential and that it is within the province of the federal government to provide these facilities. Therefore, it heartily concurs in Title IX of the National Health Act. However, it would recommend to the Committee on Labor and Public Welfare the immediate passage of S.176, the Dental Research Bill, as progress on S.545 may be delayed.

4. The American Dental Association believes that dental care should be extended to those unable to pay for such care but feels that any sound program set up for this purpose should be within the bounds of our ability to execute.

5. The American Dental Association believes that dental health education of the public is an essential part of any state dental health program. The periodic dental inspection of school children proposed in S.545 is endorsed by the American Dental Association. Such an inspection program will not be effective unless it is accompanied by a dental health education and a follow-up treatment program.

6. The American Dental Association believes, as S.545 provides, that the states and communities should be responsible for the dental health program within the state and that the program should be designed to meet its needs and ability to carry out.

7. The American Dental Association believes in a coordination of all the health functions of the federal government but favors a Department of Health over a National Health Agency.

8. The American Dental Association endorses the nonprofit voluntary prepayment plan for the distribution of health services and is in accord with the provisions in S.545 which would permit states to utilize this method for providing health service to those unable to pay for such care. Although adequate prepayment plans are not at present in operation for dental services, they are in the process of development.

Amendments

The Committee on Legislation offers the attached amendments to S.545 for your consideration. This change would eliminate certain definite requirements in Title VIII, Part B, which will have a tendency to discourage states from endeavoring to undertake the dental health programs.

Proposed Amendments to S. 545

(Title VIII—Part B—Section 812 (a)—Page 31)

On page 31 strike out lines 8 to 18 inclusive and the first four words of line 19, and insert in lieu thereof:

(4) set forth a statewide program designed to provide for the periodic inspection of the teeth of all children in the public and nonpublic schools in the state in such age groups as shall be determined by the state; and to provide for the dental care and treatment of dental diseases and dental defects of all children in the public and non-public schools in the state, in such age groups as shall be determined by the state, who, and whose family or guardian, have insufficient income to pay for the whole cost of such services. Such program may also, at the option of the state, con-

tain any one or more of the following provisions:

(A) Provide for the periodic inspection of the teeth of all children who are not in the public or non-public schools in the state, in such age groups as shall be determined by the state; or

(B) Provide for the dental care and treatment of dental diseases and dental defects of all children who are not in the public or non-public schools in the state in such age groups as shall be determined by the state; or

(C) Provide a state-wide program for the development and maintenance of effective means for education of the public concerning dental diseases and dental defects.

Social Security Status of the Population.—Of the approximately $6 billion spent in 1945 for health services of all kinds, at least three-fourths was paid by patients and their families directly to doctors and other medical practitioners, and to hospitals, laboratories and the corner drug store. The balance represented disbursements for preventive services and hospital and medical care by government, industry and voluntary agencies.

Tax-supported health activities include preventive services provided by the U. S. Public Health Service and state and local departments of health, hospitals and individualized medical care for all or specified conditions to members of the armed forces, public assistance recipients and other special groups, either directly or by arrangement with private physicians and hospitals. In 1945 more than $1 billion was spent for these functions, exclusive of expenditures by the Army and Navy for the armed forces and by public assistance agencies for medical services to needy persons. Of the total, about one-third was accounted for by the federal government and about two-thirds by state and local units of government. Services to veterans and construction of veterans' hospital facilities absorbed $119 million of the federal bill, an increase of 15 per cent over the amount in 1944. In 1945, $42 million was spent under the emergency maternity and infant care program for services to the wives and children of enlisted men in the four lowest pay grades in the armed forces, and care was authorized for 450,000 cases.

An increase of almost 60 per cent occurred during the war in expenditures for health and medical services, including outlays for hospitals and public health services, emergency wartime medical services, food and drug regulation and miscellaneous services related to health. Considerable public expenditures for health services are made in connection with other functions of government, such as education; these amounts are not included here because they cannot be segregated from other expenditures for the functions to which they are incidental. As a result, the amounts shown for public health and medical services understate the total volume of governmental outlays for health. Expenditures under each of the programs included in this group have increased slowly in the last few years. The largest increases occurred in expenditures for hospital care and construction and for emergency wartime health and medical services. The wartime program for training nurses and the emergency maternity and infant care program for dependents of servicemen were both inaugurated in the spring of 1943.—*Social Security Yearbook, 1945. Washington, D.C.: Federal Security Agency, Social Security Administration, pp. 20-22, 25.*

BOOK REVIEWS

Complete Denture Prosthesis. By Rudolph O. Schlosser, D.D.S., professor of prosthetic dentistry, Northwestern University Dental School. Second edition. 466 pages, with 288 illustrations. Price $5.50. Philadelphia: W. B. Saunders Company, 1946.

This book supplies a very definite need as a textbook for both students and practitioners, treating in clear and concise style all of the important phases of complete or full denture prosthesis. An orderly arrangement of the material, beginning with the objectives of complete denture prosthesis, followed by a detailed description of the anatomy and physiology of the oral cavity and the masticatory mechanism, provides a logical basis for the application of the clinical and laboratory procedures which follow in natural sequence.

Although the subject is presented largely from the author's viewpoint based on his long experience as a teacher, description of various contemporary procedures and technics is included, thus widening the scope and the usefulness of the book.

In addition to the technics applying principally to the construction of upper and lower complete dentures, a section on single complete dentures, another on immediate dentures and one on denture prosthesis for anomalies of jaw form and relation indicate the completeness with which this work covers the field.

The section on acrylic resins has been greatly enlarged, and three comprehensive outlines of clinical and laboratory procedures designed to provide an orderly guide to the accomplishment of efficient work in prosthesis have been included.—*William W. Hurst.*

Concise Chemical and Technical Dictionary. Edited by H. Bennett. 1,055 pages. Price $10. Brooklyn: Chemical Publishing Co., Inc., 1947.

This book consists of 1,017 pages of definitions and 70 pages of miscellaneous appended information. The definitions include a liberal sprinkling of terms which are used in dentistry. The drugs, including many of the new ones, are well represented.

The nomenclature is not entirely uniform, and exclusive trade names are sometimes listed to the exclusion of nonproprietary names. A large proportion of metallurgical and other technical terms are defined. The unique value of the book apparently lies in its listing of trade names and technologic abbreviations which would not be found in most dictionaries.

This dictionary should be useful to those who are engaged in dental laboratory work, especially of an experimental nature.—*Donald A. Wallace.*

Science. By Douglas W. Hill, D.Sc. 114 pages. Price $2.75. Brooklyn: Chemical Publishing Co., Inc., 1946.

The author's purpose in writing this book was to combat the claims and arguments of those who say that scientific progress is leading to man's destruction. The author says, "It is the thesis of these pages that scientific thought is the mainspring of scientific advance and that it should be also the guide of scientific application. The aim is to try to dispel the fear of the unknown." He considers "science" as "the power to think logically, dispassionately, impersonally, objectively and thoroughly according to a definite pattern that can be consciously adopted and taught . . ." and it is with this definition in mind that he feels that a knowledge and understanding of the scientific method should be applied in the nonscientific fields. He discusses his point by associating this point of view with industry, politics, war, education, religion and leadership, each in separate chapters.

The author has a broadminded philosophy that makes it possible for him to discuss the place of science in these various fields without giving the reader the impression that he is preaching. His views seem logical and sensible as he proposes the utilization of the scientific method and explains some of the conflicts that seem to exist. The author documents his writing with numerous quotations and, although some readers may not find each chapter easy reading, the writing is the discourse of a student who explains his philosophy and convictions without recourse to catch phrases and entertaining illustrations.—*Shailer Peterson.*

An Integrated Practice of Medicine: A Complete General Practice of Medicine from Differential Diagnosis by Presenting Symptoms to Specific Management of the Patient. By Harold Thomas Hyman, M.D. Vols. I-IV and Index. 1,184 illustrations with 305 in color. 319 tables. Cloth. Price $50 a set. Philadelphia and London: W. B. Saunders Company, 1947.

The increasing tendency toward specialization in the health professions has resulted in narrowing the field of the individual practitioner. Though this tendency has been deplored for a wide variety of reasons, it is the inevitable concomitant of a science and art that grow increasingly complex because of advancing research and discovery. If it cannot be halted, or should not be, any effort which relates the specialties directly to each other and to the total needs of the patient is distinctly worth-while. *An Integrated Practice of Medicine* attempts this task in four volumes of about four thousand pages. An additional index volume of more than two hundred pages is needed to make the material accessible.

It is difficult to say how well the author has succeeded in his task, for many specialists will undoubtedly find the chapters on their particular fields deficient and sketchy. It must be remembered, however, that these volumes have a very special objective of integrating knowledge in the specialties, internal medicine, surgery, diagnostics and therapeutics for the needs of the general practitioner. The amount of information contained in the four volumes is monumental. The writing is lucid and compact, though sometimes the reader will wish for a more scientific expression of certain views. The illustrations have all been taken from previously published works and the selection generally is good. The illustrations for the dental section have been taken from Thoma's *Oral Diagnosis* and from McCall and Wald's *Clinical Dental Roentgenology*.

The material falls into five general sections: bodily injury and bodily response to injury; disturbances of the systems of communication and coordination; disturbances of end-organs; the technics of medical diagnosis and therapy, and prognosis. The individual disease entity is usually discussed in the following terms: clinical manifestations, physical examination, laboratory findings, diagnosis, course and treatment. This method lends itself well to giving an over-all view of the topic under consideration, though necessarily the exposition in each division cannot be exhaustive. At the beginning of the larger divisions, there are good summaries of anatomy, physiology, methods of examination and treatment.

About fifty-five pages are devoted to dentistry. This material falls in the section dealing with the oropharynx in the broad discussion of the digestive system. The dental material was prepared with the assistance of Leo Stern, D.D.S. In general, it is adequate for the purposes of the whole work but it suffers from outmoded nomenclature (such as the use of the term pyorrhea alveolaris) and from occasional dogmatic generalizations ("Among wealthier patients, orthodontia is too often abused"). The section on Vincent's infection is impaired by its stress on medication and its lack of insistence on proper instrumentation by the dentist. "As the disease lapses into chronicity," the author states, "the patient should be referred to the dentist for thorough but cautious hygienic treatment." The emphasis on the value of cooperation between the dental and medical practitioner is well placed and sound. Although dentists might wish for a steadier discussion of their field, the information in this chapter will certainly extend the limits of dental knowledge for most physicians.

The dentist also has an obligation to understand the broad problems that are involved in the total health of the patient. A reading of these volumes, which range in their coverage from the endocrines through pediatrics to psychiatry and obstetrics, will definitely enlarge the informational background of the dental practitioner. If both dentist and physician read and study these volumes, the results could be no other than a greater understanding of the problems of the two professions and a better service to the patient as a biologic unity.

The Genesis of Dental Education in the United States. By Van Broadus Dalton, D.D.S. 216 pages. Columbus, Ohio: Spahr and Glenn Company, 1946.

The author's original intention was to prepare a brief historical sketch of the Ohio College of Dental Surgery on the hundredth anniversary of its founding (November 1945). As he compiled the material for this sketch he felt that the founding and early existence of the school were so intimately associated with the beginnings of dentistry that the discussion

should be broadened, and this book is the result.

He has classified his findings under four major headings: The Cradle of Dental Education; The First Dental Societies, and Other Dental Organizations; The Beginnings of Dental Legislation in the United States, and The Ohio College of Dental Surgery.

In the first section Dr. Dalton devotes his attention to the period between 1825 and 1845, giving much praise and credit to John Harris, whose school and office were located in Bainbridge, Ohio.

The last section traces the growth of the Ohio College of Dental Surgery through its eighty-one years of existence. Details of its progress, its changing personnel and the events which led to its closing are enumerated. Dr. Dalton urges the citizens of Cincinnati to rebuild a dental college, preserving as far as possible the traditions and original charter of the Ohio College of Dental Surgery.

The entire book is a compilation from a large number of source documents. The author has included cuts from the most interesting documents and has compiled a chronologic account of the various actions and happenings. As one would expect, it is impossible to make a collection of events and a series of quotations from books, college catalogues, commencement speeches, obituaries, resolutions and letters read like a novel, but the manner of presentation of the material is such that the story is easy to follow and the relocation of facts and figures reasonably easy.

Cirugia Oral Menor (Minor Oral Surgery). By Ernesto Gietz, in collaboration with Humberto Aprile, Leon Bronstein, Fermín A. Carranza, Juan C. Centanaro, Mario Craviotto, Arturo Marfort, Pedro Saizar, Carlos Tombeur and Carlos Wassbein. 488 pages, with 499 illustrations. Index. Buenos Aires: Progrental, 1946.

This comprehensive work on minor oral surgery is the initial volume of a series in preparation by a group of distinguished Argentine dentists which will cover ten of the major special classifications applicable to dentistry. The author of each book is a recognized specialist in the particular branch treated in that volume and will have the collaboration of the entire group, as well as the advice and assistance of other specialists in his field.

This book, in five parts, is designed for the general practitioner rather than for the specialist in oral surgery.

Part I, General Concepts of Surgery, contains chapters on wounds and their healing; infections of the jaws; discussions of technics for administration of general and local anesthetic agents and the indications and contraindications for their administration. A chapter on hemorrhage and its control includes discussion of diagnostic symptoms of conditions in which excessive bleeding is to be anticipated and lists all hemorrhagic syndromes which are now understood by the profession. Preoperative examinations, both clinical and laboratory, are treated in conjunction with diagnosis. The subject of surgical instruments and their use is presented in an excellently illustrated chapter, and the section on the operating theater covers materials, equipment, methods of sterilization and general procedure.

Part II presents the field of exodontia, with chapters on general principles of extraction, indications and best time for such procedures and postoperative complications. One chapter is given to simple extractions and another to flap operations. The remainder of this extensive section deals with impacted teeth, presenting the over-all picture, as well as specific problems encountered in the removal of cuspids and third molars.

Conservative surgical procedures designed to save a tooth are covered in part III, which discusses root resection, root amputation and the replantation of teeth.

In part IV, Cysts of the Jaws, follicular and periodontal growths and adamantinomas are considered, together with surgical procedures for their removal.

Part V covers the field of plastic surgery as it relates to prosthetic dentistry. Technics for surgical operations of both hard and soft tissues are described.

The book's format is excellent. The style is direct, the illustrations throughout are competent and there is a splendid index. The Spanish text should offer no difficulty to anyone with a basic knowledge of the language.

Dr. Pedro Saizar, director of the projected series, is the editor of this volume. He and his colleagues have adhered faithfully to the original notes and plan of the author, whose death preceded the book's publication.—*Martha Ann Mann.*

CURRENT LITERATURE

Journal of Oral Surgery

October 1946

Titles marked with an asterisk (*) are reviewed below.

*Rationale of Treatment in Maxillofacial Injuries With Report of Four Cases. M. M. Maxwell, C. J. Schork, and Edward Heidt, St. Albans, N. Y.—269.

*Use of Penicillin in the Treatment of Vincent's Infection and Its Subsequent Oral Disturbances. W. E. Hoppe, Medford, Ore., and G. E. Meyer, Chicago.—304.

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*Compound Composite Odontoma of the Mandible: Report of Case. R. G. Knapp, Utica, N. Y.—316.

*Intra-Oral Surgical Reduction of Fracture of the Mandible After Failure to Correct the Displacement by Elastic Traction: Report of Case. H. B. Clark, Jr., St. Paul.—318.

*Stabilization of Fragments of an Edentulous Mandible Showing Extensive Loss of Bone: Report of Case. H. B. Clark, Jr., St. Paul.—321.

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*Presence of Glycosuria in Deep Postoperative Submandibular Cellulitis: Report of Case. D. C. Foti, New Orleans.—325.

*Fatal Tetanus Associated With Acute Maxillary Sinusitis. A. O. Hubbell, Long Beach, Calif.—328.

*Bilateral Osteotomy for Retrusion of the Mandible: Report of Case. J. J. Stetzer, Jr., Philadelphia.—329.

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*Reduction and Immobilization of Fracture of the Maxilla by Internal Wire Suspension: Report of Case. J. W. Kemper, Ann Arbor, Mich.—336.

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*Hemiresection of the Mandible for Ossifying Fibroma: Report of Case. J. W. Kemper, Ann Arbor, Mich.—340.

*Preparation of a Screw Lock Sectional Splint With Mechanical Retention. W. D. McCarthy and S. R. Burns, Denver.—343.

Rationale of Treatment in Maxillofacial Injuries With Report of Four Cases. M. M. Maxwell, C. J. Schork and Edward Heidt.

Maxwell, Schork and Heidt describe briefly the emergency treatment, comprehensive diagnosis, treatment planning and definitive treatment of maxillofacial injuries incurred during World War II. Emphasis is placed upon the oral surgeon's responsibilities at the time the cases come under his cognizance.

The authors favor the use of the cast splint for treatment of multiple fractures of the jaws for the following reasons: "(a) The segments of fractured jaws may be retained in normal relationship without necessitating constant intermaxillary fixation, thereby materially contributing to the comfort and nutritional welfare of the patient; (b) a better functional and cosmetic end result is ensured by preventing bony consolidation in malposition and minimizing the formation of scar tissue over collapsed jaws; (c) eliminating the necessity for intermaxillary wiring facilitates intratracheal anesthesia, when indicated, by permitting the anesthetist to visualize the larynx for intubation, and (d) when a series of reconstructive operations is necessary, cast splints may be cemented in place for a protracted period of time, thereby ensuring the integrity of the remaining teeth as well as maintaining the displaced parts in normal position."

The four cases reported involve reconstructive surgery for repair of soft tissue and bony defects. Bone grafts, bone chips and tantalum plate inserts were used for repair of lost bone. The cases are excellently illustrated with preoperative and postoperative photographs of procedure and technic of treatment and roentgenograms of defects and their repair.

Use of Penicillin in the Treatment of Vincent's Infection and Its Subsequent Oral Disturbances. W. E. Hoppe and G. E. Meyer.

Hoppe and Meyer report their findings in the treatment of Vincent's infection with penicillin. They used the drug both topically and intramuscularly with contrasting groups of patients to determine its effectiveness for cure

and control of the infection. Optimum results were obtained by the use of 30,000 units intramuscularly every three hours. The average time required to produce a negative smear for Vincent's organisms by the administration of penicillin was thirty-six hours. The average total dose per patient was 360,000 units. After a seven-day period other supportive treatment, such as oral prophylaxis, was instituted and there was no clinical evidence that the disease had recurred.

In one group, local treatment was instituted early or simultaneously with administration of penicillin. However, in this group it required a somewhat larger dosage of the drug to effect a cure.

There were some failures in the group that was treated with supportive measures and only topical use of the drug.

The authors conclude that penicillin injected intramuscularly or applied topically acts as an efficacious spirocheticide. Where supportive treatment was given in conjunction with administration of penicillin, clinical symptoms did not improve as rapidly as was the case where no supportive treatment was given. This is explained on the basis of a marked increase in salivation immediately after administration of penicillin. The presence of debris and calculus around the teeth acts as an absorbent medium for the drug, and the abnormal amount of saliva is more beneficial than irrigations of the mouth.

Recent Review and Discussion of Penicillin. G. E. Meyer.

A new crystalline penicillin is now available which does not require refrigeration and is more stable than previous penicillin preparations. The present use of parenteral penicillin in beeswax with peanut oil permits therapeutic blood levels to be established within an hour and maintained for from sixteen to twenty-four hours.

Buffered penicillin tablets for oral use may be replaced with unbuffered penicillin, as blood levels with the use of each are identical. Oral penicillin should be given in doses five times greater to approach therapeutic blood levels of the parenteral method.

Aerosolized penicillin is being used in the treatment of pulmonary infections, and apparently both systemic and local effects are obtained. The author reports true toxicity to penicillin to be singularly infrequent, and the commonest side effects to be urticaria, chills and fever. It has not been determined whether these reactions are caused by impurities in the material or hypersensitivity of the patient, or whether both factors are responsible at different times. Side reactions to oral penicillin include cramps, nausea and diarrhea. The use of penicillin lozenges has resulted in various types of acute lesions of the mouth which subside promptly with discontinuation of the drug.

Compound Composite Odontoma of the Mandible: Report of Case. R. G. Knapp.

The case reported is that of odontoma in a young lady, aged 23, who came for treatment because of absence of all molar teeth on her lower right side, coupled with no history of extractions. The tumor was removed under general anesthesia and found to contain 66 rudimentary teeth.

Intra-Oral Surgical Reduction of Fracture of the Mandible After Failure to Correct the Displacement by Elastic Traction: Report of Case. H. B. Clark, Jr.

Clark reports a case of complete, compound fracture of the mandible near the symphysis, which, because of its peculiar malposition and impaction, did not yield to ordinary elastic traction applied to the teeth. Eight days after injury it became necessary to perform an open intra-oral reduction of the oblique fracture line. Fibrous attachments were severed in the line of fracture and the ends opposed in normal alinement. The position was maintained by the original multiple loop wiring and elastic traction.

Stabilization of Fragments of an Edentulous Mandible Showing Extensive Loss of Bone: Report of Case. H. B. Clark, Jr.

A case is reported of traumatic injury and fracture of the mandible as a result of an artillery shell fragment. The patient suffered a gross loss of bone from the anterior part of the mandible. Approximately one month later an acrylic splint with circumferential wiring was used to maintain position of the lateral fragments and immobilize them until a bone graft could be accomplished. At the time of original injury a primary closure of the lacerated wounds of the mouth was performed, and

bone ends were covered with soft tissue. As a result no massive scar had been allowed to form from wounds long left open.

Presence of Glycosuria in Deep Postoperative Submandibular Cellulitis: Report of Case. D. C. Foti.

A white man, aged 19, had a lower second molar removed four days prior to admittance to the hospital. Swelling of the face and submandibular area began on the day after extraction. Urinalysis at the time of admission revealed a plus 4 sugar reaction and a temperature of 102.9 F. Blood sugar revealed a concentration of 72 mg. per cent. An incision was made and drainage was established, and a culture revealed Streptococcus viridans. Six days after hospitalization urinalysis of the patient revealed no sugar. A glucose tolerance test was made upon recovery and presented a normal curve. The presence of sugar in the urine was explained as resulting from the acute infectious process and the patient's low renal threshold to glucose.

Fatal Tetanus Associated With Acute Maxillary Sinusitis. A. O. Hubbell.

A case is reported of a white woman, aged 50, who was seen because of pain in the posterior maxillary teeth on one side. Further examination revealed a unilateral maxillary sinusitis. The teeth on the offending side were apparently normal. Pain in the teeth was relieved after irrigation of the sinus. The patient was admitted to the hospital because of increased difficulty in swallowing and trismus. She also complained of soreness in her back, which she attributed to recent gardening.

Within twelve hours after the patient's hospitalization the trismus became complete and regular contraction of the muscles of the neck began. The patient died twenty hours after admission.

Point of entrance of the organism was thought to be either a lesion in the gastrointestinal tract or a healed lesion on the hands or feet.

Bilateral Osteotomy for Retrusion of the Mandible: Report of Case. J. J. Stetzer, Jr.

A case of marked retrusion of the mandible of a white man, aged 21, is described. Cast silver splints were applied to maxillary and mandibular teeth prior to operation. A bilateral osteotomy was accomplished, under Avertin and nitrous oxide-oxygen anesthesia, by an incision, 2 cm. in length, below the tragus of the ear and along the posterior border of the mandible, exposing the posterior border. A Gigli saw was passed around the ramus above the mandibular sulcus and out through a stab incision in the cheek. The mandible was positioned in proper occlusion and held with wire ligatures to the splints. The case is well illustrated with photographs and roentgenograms.

Osteomyelitis of the Mandible: Report of Case. J. J. Stetzer, Jr.

A white man gave a history of having a lower second bicuspid removed three months previously. Curettage of the alveolus was performed by another dentist one month later. Ten days prior to entry into the hospital the same dentist again curetted the region and removed a lower lateral incisor to "relieve pressure."

When the patient was first seen by the author an occlusal roentgenogram showed small sequestra on the lingual side of the mandible. Three operations which consisted of sequestrectomies and incision and drainage of the symphysis region were performed over a period of five months.

The author concludes that curettement and extraction of teeth in the early stages of osteomyelitis led to extensive destruction of bone and were the cause of the patient's long illness.

Reduction and Immobilization of Fracture of the Maxilla by Internal Wire Suspension: Report of Case. J. W. Kemper.

Kemper reports a case of complete transverse fracture of the maxilla that was reduced and immobilized by the use of buried stainless steel wires. Drill holes were placed in each infra-orbital ridge. A stainless steel wire was passed through each hole and carried down along the surface of the maxilla to the vestibule of the mouth where it was attached to a dental arch bar.

Open Reduction of Fracture of the Mandible: Report of Case. J. W. Kemper.

Kemper reports a case of a five week old complete fracture of an edentulous mandible that was reduced by fixed wiring across the

line of fracture. The approach was external and one drill hole was placed in each fragment. It was necessary to remove the fibrous tissue between the fragments and freshen the bone ends before reduction was accomplished with a stainless steel wire suture that was passed through the drill holes.

Hemiresection of the Mandible for Ossifying Fibroma: Report of Case. J. W. Kemper.

The case reported is that of a white woman, aged 45, who was completely edentulous. Examination revealed a hard, painless, noninflammatory tumor of the body of the right mandible, extending from cuspid to angle. Biopsy yielded the diagnosis of ossifying fibroma. Owing to extensive involvement it was felt that partial resection was indicated to eradicate the neoplasm. Under general anesthesia an incision was made along the inferior border of the mandible on the right side, and with a Gigli saw the diseased mandible was resected 1 cm. to the right of the median line and just below the sigmoid notch. The layers were closed and a drain was inserted. The patient is now wearing complete upper and lower dentures wnich function normally.

Preparation of a Screw Lock Sectional Splint With Mechanical Retention. W. D. McCarthy and S. R. Burns.

McCarthy and Burns advocate the use of a cast metal sectional splint in cases of fractures of the jaws that require long fixation. They illustrate and describe the technic for its construction and adaptation. The splint is so designed that the occlusal surfaces of the teeth are exposed. Screw locks are used to fix the splint to the teeth, and retention screws are also incorporated in the splint to add to its efficiency.—*H. L. Hubinger.*

Implantation of Acrylic Teeth. Amador C. Nur. Rev. dental de Chile. 38:397, October 1938.

A report is made of observations, extending over a period of two years, of the use of acrylic teeth for reimplantation after immediate extraction. The technic employed involved the use of the extracted tooth as a pattern for the acrylic substitute. The best results were obtained in the upper bicuspids, but the method also was used successfully on anterior teeth.

The acrylic tooth is held in place by attached inlays in adjacent teeth or by a lingual cast metal bar between them. The author claims that, unless the periodontal tissues have been unduly damaged during extraction, the soft tissues and surrounding bone tolerate the acrylic tooth and adapt themselves about it successfully. He reports instances of gingival and alveolar retraction and osteitis, but, as a rule, the implantations are successful, appearing perfectly normal and remaining so during his period of observation.

The author offers his data only as a progress report of an experiment which has not been continued long enough to warrant any definite conclusions. His experience and observations, however, have been sufficiently encouraging to warrant further study.—*R. W. B.*

The Eye and the Teeth. José A. Sena. Rev. odont. 34:347, August 1946.

The author calls attention to the relation between diseases of the mouth and disturbances of the eye and classifies the latter disturbances as sensory, motor and secretory. Many examples of disturbances of these eye functions are related as connected with or caused by dental diseases and abnormalities, and numerous references in the literature are cited in support of that opinion.

The author shows the anatomic relation of the teeth to the antrum of Highmore, the proximity of the upper cuspid teeth and the cancellous bone between the teeth and the eye, through which dental infections may travel directly to the orbit. He also stresses the possibility of eye involvement through the general circulation from a dental focus of infection. The dental disturbances are classified as dental caries, periodontitis, disturbances of eruption, impaction of teeth, accidents of extraction, such as destruction or denuding of the dental nerve, pulpitis and apical abscess.

The evidence submitted is purely clinical observation based on the improvement of eye disturbances after extraction of diseased teeth or the treatment of dental or periodontal diseases. The author is strongly convinced of the pathologic relationship between the teeth and the visual apparatus and he urges closer collaboration between dentists and ophthalmologists.—*R. W. B.*

The Masticatory Apparatus of the People of Calvinia and Namaqualand in the North-Western Cape of the Union of South Africa. L. C. Abrahams. Official J. D. A. South Africa 1:5, December 15, 1946.

The author has made a comprehensive study of the teeth and dental health of people in two areas in South Africa. These people are descendants of Europeans who were transplanted in the seventeenth century and since that time have lived very primitive and segregated existences. The conditions observed were compared with those of the native South African Bantus and the Europeans of the North. Recordings were made of the dentitions and the occlusion of the teeth, the frequency of dental caries and periodontal diseases.

The diet of these people has been largely meat, bread and coffee, with little fruit or fresh vegetables. For the most part the food is hard baked or dried and requires considerable chewing. Sweets are not easily available and are eaten less frequently and in smaller quantities than in urban centers.

The fact that the incidence of caries is much lower than usually found among Europeans is attributed by the author to the low sugar and carbohydrate intake and the hardness of the food. He found no relation between low caries and adequacy of the diet or the vitamin or mineral intake.

In areas where the water contains fluorine in varying degrees of concentration there is evidence of mottled teeth. The author found caries to be active in certain areas in which fluorine was high. He found Bushmen in nonfluorine areas who had complete immunity from caries. His conclusions relative to the relation of water borne fluorides to dental caries are contrary to those of Ockerse and a great mass of statistical data in this country.

In experimentation by the heavy impregnation of extracted teeth with fluorine, he found that these teeth were no less soluble in acids than untreated teeth. He found no evidence that the topical application of sodium fluoride affected the caries rate.

The susceptibility of individual teeth to caries is essentially the same in the group of transplanted Europeans as in the primitive native Bantu. This finding leads the author to the conclusion that the physical nature of the diet and the absence of refined sugar and carbohydrates are the controlling factors.

In this study the author apparently was dealing with several important factors acting singly, or in combinations, such as heredity, the physical character of the food, low sugar intake and variable exposure to fluorine. The data indicate that the low caries rate is associated with a substandard nutritional ration and a low sugar intake and that fluorine may have played a part in those areas in which it is present.—*R. W. B.*

Teeth of 5 Year Old London School Children. May Mellanby and others. Brit. M. J., October 19, 1946, p. 565.

In this report of the examination, made in 1945, of the teeth of more than 1,800 children, the findings were compared with previous studies made in 1929 and 1943. Only children from 5 years up to but not including 6 years of age were included. Recordings were made of the number of teeth present, the structure of the teeth, caries in each tooth, arrest of caries, treatment of carious teeth, staining of the teeth and other dental conditions.

A definite improvement in the health of children in this age group was recorded and reported. This improvement was most marked between 1929 and 1945 and less so between 1943 and 1945. The average index of hypoplasia decreased from 1.04 in 1943 to 0.91 in 1945.

In 1929 the percentage of caries free children was 4.7, in 1943 it was 22.4 and in 1945 it was 26.5. Between 1943 and 1945 the average caries figure decreased from 0.65 to 0.55. In the same period, teeth showing spontaneous arrest of caries increased from 11.7 to 21.5 per cent. The report indicates a definite relation between hypoplasia and caries experience.

In the discussion of these findings and their significance, the same philosophy has been emphasized as has characterized all former contributions from this English group; namely, the all important factor of nutrition as a determinant of dental caries. No weight is given to the well known fact that sugar consumption was decreased almost to the vanishing point during the war years which com-

prised most of the lives of the children examined in 1943 and 1945. The authors attribute the improvement in dental conditions observed wholly to the fact that during the war years more children received cod-liver oil and other vitamin protectives in addition to a better balanced ration. The assumption that all children in England were well fed during the war years might be open to question or, at least, to further clarification.

The report of these comprehensive surveys, indicating a moderate but definite improvement of dental health among English children, is most interesting, but the conclusions drawn from this study are open to honest doubt. In view of the great preponderance of factual data gathered in this country, showing an unmistakable relation between sugar consumption and caries activity, the drastic reduction of sugar in England during the war years should not be ignored as a major factor in caries reduction. Certainly no cogent proof is presented which would justify the inference that all British children were uniformly well fed during the war or that any noticed improvement in their dental health may rightfully be attributed to the excellence of their nutrition.—*R. W. B.*

Role of Glucose in Promoting Growth of Lactobacilli in Saliva. David Weisberger. Science 105:290, March 14, 1947.

The report is concerned with observations on some chemical changes occurring in saliva incubated with glucose at body temperature and the use of an incubated saliva-glucose mixture as a substitute for tryptophane and for casein hydrolyzate in a synthetic medium.

As a result of the addition of glucose to incubating saliva there was an increase of approximately 100 per cent in the "carboxyl CO_2" liberated during incubation. Also markedly less ammonia was formed in the saliva incubated with glucose. These results are interpreted as evidence that the presence of glucose in saliva favors proteolysis over deamination. Further observations have been made regarding the ability of saliva, given preliminary incubation in the presence of glucose, to substitute for tryptophane and to a lesser extent for the casein hydrolyzate in synthetic mediums.

The chemical findings suggest an additional role for glucose in the physiology of the oral cavity. In contact with saliva at body temperature, glucose assists in the liberation of amino acids which can be utilized as nutrients for the growth of oral lactobacilli.—*Hyman Goldberg.*

Typical Structures on Replicas of Apparently Intact Tooth Surfaces. D. Scott. Pub. Health Rep. 61:1397, September 27, 1946.

Tooth surfaces have been studied by the following technic. Surfaces are cleaned or treated to the extent desired and then completely dried. A thin layer of collodion is applied and after fifteen minutes is removed by suitable means. Thoroughly dried replicas are shadowed by oblique metal evaporation under high vacuum. Cover glasses are fixed over replicas and examined under the ordinary microscope.

Approximately 2,000 replicas, 500 of which were obtained from teeth *in situ*, were examined. The most common structures on replicas, intact by visual inspection, are described and include the following: enamel rod ends, interprismatic material, perikymata, cracks, scratches, microscopic roughness, abrasion and smooth areas. Twelve figures accompany the descriptive material.—*J. E. Gilda.*

Anhidrosis With Hypotrichosis and Anodontia in a Portuguese. J. Ferreira Marques. Acta dermat.-venereol. 25:86, June 1946.

This unusual syndrome consisting of aberrations in the formation of the hair, the teeth and the sweat and sebaceous glands of the skin, all of ectodermal origin, is reported, presumably for the first time, in a man of Latin racial origin, a 29 year old Portuguese.

No teeth are seen in the mandible, and the alveolar ridge is markedly atrophied. Only two bicuspids are seen in the maxilla, and these are "atrophied, deformed, and conical." Other noticeable features include a saddle nose, with ethmoiditis and sinusitis, prominent chin, thick lips, small ears and hippocratic fingers, and the skin of the face and ears is speckled with small tumors of the sebaceous glands. The patient possesses a keen intelligence. Microscopic studies reveal a complete lack of sweat glands and a relative scarcity of sebaceous glands. The hair is of a normal structure but is said to be too thin. A clinical history and a discussion are given.—*D. F. Mitchell.*

CASES AND COMMENTS

General Mills Expresses His Opinion Regarding Army Dental Corps Regulations

To the Editor: During the last four or five weeks my attention has been directed several times to the editorial which appears on pages 488 to 490 in the April issue of the Journal of the American Dental Association. It is not the purpose of this communication to direct your attention to the all too many negative statements that appear therein but instead to discuss such of the constructive purposes to which the editorial is directed that are common to you, to me, and to our profession.

Before discussing the changes that should be made in the administrative procedures in our Army Dental Corps, I feel obliged to reiterate my firm conviction that attempts toward legislative changes should not have been made during our last war for the reasons that:

(a) to have made the try and failed (and there was then a grave likelihood of failure) would have lost valuable ground including our accomplishments already made toward these objectives, and

(b) would have antagonized the interests and attention of those to whom we looked for support for changes through administrative regulations without legislation very much to the detriment of our opportunities of accomplishment.

During the war I was confident that desirable changes would be made through revised regulations, and they were. During the war I was confident that when the fighting part of it was over, these changes and additional desirable ones would be made permanent through appropriate legislation enacted when peace was again established.

During my period as Director of the Dental Division, and please remember I am now writing as a citizen and as a dentist for I am retired and no longer a part of the Army Dental Corps, I had complete assurance from the then Surgeon General that our program for improved regulations had his approval. The then Surgeon General, one of the greatest friends dentistry ever had in that office, was, as you well know, responsible to the Commanding General, Services of Supply and the Secretary of War. Nearly complete satisfactory regulations were approved by General Kirk long in advance of their effective date. This date (August 8, 1945) was very much later than either General Kirk, or others responsible for the program, anticipated. Indeed, even then some of the desirable features were deleted and not included in these regulations. Their subsequent cancellation after having been in existence for a period of a little over a year and long after my retirement proved a severe disappointment, but I confess was not wholly unexpected.

My anxiety during the war was not to embarrass ourselves by a frontal attack which I was sure would lose ground for us but to preserve that which we had and to improve our position as fast as was consistent with realistic appraisals.

I could and probably should cite the vast changes in the setup in the Dental Corps, including the acceptance of dentistry by the Army during the interval between the two World Wars in which I served. Suffice to remind you that in the first World War several thousand dentists served, but only about half of them as dentists. The others shouldering guns as infantrymen or privates otherwise in our Army. Practically none served as such during World War II. We should also be mindful of the vast achievements of dentistry in World War II, which are too many to mention here, and in which I am sure we all take pride.

Throughout the war I stood boldly for administrative changes by way of War Department regulations to accomplish the following objectives, and as implied then, I now stand just as boldly for these changes through appropriate legislation. To ask our Congress to improve our status during the war is one thing; to ask our Congress to investigate and give its attention to these problems while our country is at peace is quite another. I am for the following and am prepared to lend my assistance toward obtaining:

(1) Administrative control of dentistry in the Army by the Dental Corps on a parity with that of other professional services.

(2) Equal pay for all medical and dental officers of the same rank. Note: Compensation is now equal but efforts are being

made to increase the pay of Medical Corps officers without commensurate recommendations being made for Dental Corps officers.

(3) An adequate number of enlisted men permanently assigned to The Dental Service.

(4) The percentage of dental officers in the grades of Brigadier and Major Generals to be the same percentage afforded the Medical Corps.

There is much that could and should be said regarding the implications and allegations appearing in the editorial referred to in the first part of this letter. However, I prefer that this communication be related nearly only to clear-cut statements as to my own position on these matters as the ranking dental officer during the greater part of World War II and as to my position as one member of the American Dental Association and a retired officer of the Dental Corps. There is in these, Doctor Morrey, abundant evidence of constancy.

Copies of this letter are being forwarded to the President, the President-elect, the members of the Board of Trustees, Doctors Flagstad, Kirkland, and Camalier, and in addition, to the Director of the Dental Division of the Surgeon General's office.—R. H. Mills, Major General, United States Army, Retired, 4000 Cathedral Avenue, N. W. Washington 16, D. C., May 23, 1947.

"Dental Art in Ancient Egypt"

To the Editor: The article on "The Dental Art in Ancient Egypt" by Bernhard Wolf Weinberger, which was published in the February 1, 1947, issue of THE JOURNAL, calls for comment. Much that might be said in disagreement with his views is summarized in the following paragraphs:

1. In spite of implications to the contrary, no new evidence is introduced in this article—nothing that was published later than 1929 or that was unknown to dental and medical historians. Also no new interpretations of evidence and no new inferences that are at all warranted by the evidence are made.

2. It is not true "that what now appears in dental literature and histories, as far as it relates to this period of Egyptian history, was founded entirely on imagination and invention" (p. 181). Although there has been much misstatement, a substantial body of evidence and conclusions exists and has been published.

3. The references to tooth conditions in the Egyptian papyri do not warrant the use of such terms as gingivitis, erosion, pulpitis or even toothache (p. 173). Only one of five conditions—namely, loose teeth—for which remedies are given can with certainty be identified.

4. The passage (p. 182) concerning the existence of "records of missing teeth being supplied by dental practitioners" does not relate to Egyptian papyri, as it is made to appear, but to the Jewish *Talmud* many years later.

5. The specimen which the author cites as a Roman splint for stabilizing loose teeth (p. 184 and Fig. 8) is "a gold crown fastened to the neighboring teeth by gold bands" (Sudhoff); in other words, a gold band bridge with a hollow gold dummy tooth.

6. Dr. Weinberger postulates a rise of prosthetic dentistry in ancient Egypt "built up during the course of several millenniums," followed by a period of decline in which it "eventually was destroyed." The evidence for such a historical development rests solely on the existence of a single known specimen, a crude wiring of two teeth, to represent the ancient period and the absence of any known specimen from the later period.

7. Dr. Weinberger assumes that the Phoenicians learned goldsmithing from the Egyptians. He knows that there exists the crude specimen of Egyptian wiring mentioned previously. From this assumption and this specimen, he deduces that the ancient Egyptians must have made wire splints and bridges as skillful and finished as the two extant specimens (the Gaillardot bridge and the Ford splint) of later Phoenician origin.

8. From the same assumption for the Etruscans and without an analogous Egyptian specimen, Dr. Weinberger concludes that the ancient Egyptians must also have constructed soldered gold band splints like those of the Etruscans. All this is merely wild speculation, and history is not a deductive science.

9. The single stabilizing splint mentioned (p. 180, Fig. 4) is the only instance of prosthesis known from ancient Egyptian times. It is a crude piece of work, which might have been performed by anybody, and certainly does not establish the existence of any advanced prosthetic development by either craftsmen or dentists in ancient Egypt.

10. The inscriptions on monuments designating certain physicians as "toothists" do not necessarily testify to the existence of dental specialists in the modern sense of practitioners possessing extensive knowledge and great skills in a relatively restricted part of the healing art. These designations probably were merely titles of distinction, regarded as honors, bestowed by the king or nobleman in whose court the physician practiced, and indicating that the possessor was entitled to guard the health of the designated part of the royal person. This interpretation would account for the fact that some of these "specialists" had as many as fourteen "specialties."

11. Dr. Weinberger's attempt to establish distinctions among the "toothists," some of them supposedly practicing prosthesis and others performing surgical operations, is an arbitrary discrimination among variant terms, unjustified by any evidence. Nothing appears in the published discussions of Junker, Ranke and deLint, on whom he relies, to support such a distinction.

12. For the existence of dental surgery among the ancient Egyptians, Dr. Weinberger relies on the evidence of the Thoma-Hooton ancient Egyptian mandible, thought by many investigators to exemplify a surgical operation for the drainage of a periapical abscess. This interpretation offers almost insuperable clinical obstacles. Treating disease only in its symptoms, the Egyptian surgeon would have operated only at the time of an acute exacerbation, in the presence of swelling and pain. He would have had to penetrate the inflamed tissues twice with a probably awl-like instrument made of bronze at best. It is hard to believe that the patient—especially if he were a person of consequence, as seems probable—would have submitted to so agonizing a procedure.

The two most probable explanations are that these perforations are pathologic fistulae or the work of boring insects post-mortem. The fistula explanation is more probable than the theory of operation, since the passages have both remained open, as would not be the case if the forward perforation had been an unsuccessful drilling for drainage, as claimed.

The second explanation has not been developed in the dental literature to any extent. It cannot, however, be brushed aside lightly. With regard to this subject Smith and Jones, in their report on the human remains in the *Archaeological Survey of Nubia*,[1] gave important analogous evidence: "This [surface destruction] is the most common of the effects of post-mortem insect boring, but there is another and a far more deceptive one. This condition is shown in Plate XXX, Fig. 2, where the skull bones are riddled with a series of rounded holes of somewhat different sizes; in places, these little holes have coalesced, and then larger perforations penetrate the whole thickness of the cranial walls. The appearance is altogether a most puzzling one, for the most minute of all the holes, which lie scattered around the edges of these areas, simulate very closely the punctuate appearance of bone that has become highly vascular through the action of some inflammatory process. Only a few examples of this condition were met with, and no insect remains were found in connection with the specimens; but the manner of making the holes leaves no doubt as to their origin. In the case that is illustrated, the tissues of the scalp and also a leather garment were preserved in a very perfect condition; and the same little holes were bored through both the scalp and the garment, and in those places where the shrinking had caused the production of folds and wrinkles, the holes went straight through the turned-over portions, and the general surface. The body belonged to the Old Empire, and tendons, muscles, and skin were quite perfect, but no tissue escaped the

Skull showing a curious condition of the bones caused by the gnawing of some insect (from Smith and Jones[1])

1. Smith, E. G., and Jones, F. W., *Archaeological Survey of Nubia*. Cairo: National Printing Dept. 1910, pp. 290-291.

process of boring. Without the evidence afforded by the remains of the soft parts, the diagnosis of this condition would have been a matter of great uncertainty." The specimen here referred to is reproduced in the illustration. G. E. Smith's discussion[2] of this matter elsewhere and the accompanying photographs are also enlightening.—*George B. Denton, Ph.D., 311 East Chicago Avenue, Chicago.*

Unethical Dental Laboratory Practice

To the Editor: During World War II when the shortage of dentists was acute, unscrupulous and unethical dental mechanics entered into the field of dentistry in the guise of "black-market" operators. Soliciting patients for the purpose of making various types of artificial teeth, they posed as dental experts and attracted a considerable volume of business. The dental laboratory was installed in either the patient's kitchen or the kitchen of the technician.

Since this unscrupulous practice still persists in various sections throughout the country, it is important that the American public be educated to the dangers of securing dentures by this means. The dental mechanic treats all mouths in the same manner regardless of anatomic structures. His technical knowledge of the positions of the upper and lower jaw, attachments of the oral muscles, salivary glands, Wharton's duct, Stensen's duct and other anatomic relations is questionable as these facts fall in the province of the graduate physician or dentist only. The average patient is unaware of the dangers which are imminent as a result of misfits. Chronic irritations caused by improperly fitted dentures may develop into cancer of the mouth.

Recently, the interstate traffic in mail order dentures has been stopped completely. It is thought that eventually the illegal practice of dentistry by unethical laboratories will cease. Several of the various state boards of dental examiners scattered through the country have apprehended this unethical practice in their respective states and have enforced penalties.

Kansas has a law known as the laboratory prescription law, which maintains a check on dental laboratories in that state.

The American dentists are not the only ones confronted with the problem of unethical dental practice. I have learned that the members of the New Zealand dental technicians union have petitioned their House of Representatives for the passage of a law permitting them to practice dentistry. They claim that there is a tremendous shortage of dentists in New Zealand and that, if dental technicians are granted permission to practice, the shortage will be alleviated.

In every state in the United States there is a board of dental examiners whose duty is to protect the public. No one is permitted to practice dentistry unless he or she is a licensed or a registered member of the dental profession. No dental technician has the legal right to practice dentistry.—*Charles A. Levinson, D.M.D, 16 Hamilton Road, Brookline, Mass.*

Supernumerary Teeth: An Unusual Case.

By René M. Loriot, Paris, France.

The accompanying roentgenogram shows two permanent lateral incisors impacted in the upper jaw of a 9 year old child. The primary dentition also presents a supernumerary lateral incisor.—*73 Boulevard Malesherbes.*

Supernumerary permanent and temporary lateral incisors in upper jaw of 9 year old child

2. Smith, G. E., The Alleged Discovery of Syphilis in Prehistoric Egyptians. *Lancet*, p. 521 (August 22) 1908.

LIST OF DENTAL OFFICERS

SEPARATED FROM ARMY DENTAL CORPS

THE following list of dental officers separated from the Army Dental Corps does not include rank because such information is no longer furnished by the Surgeon General's Office. Publication will be given to other names as soon as possible.

California

Glendale	Weinberg, Jerome
Long Beach	Spaulding, Lawrence A.
Los Angeles	Engel, Benjamin
Los Angeles	Levine, Irving E.
Los Angeles	Prince, Clayton A.
Los Angeles	Schoen, Max H.

Connecticut

Bridgeport	Johnson, Joseph J.
Danbury	Fischer, Edward T.
West Hartford	Zwillinger, Richard H.

Illinois

Berwyn	Lapka, William F.
Chicago	Lehr, Max I.
Chicago	Liebowitz, Hyman A.
Chicago	Paule, Howard N.

Indiana

Hobart	Harris, Paul P.

Louisiana

Arcadia	Kirkland, Neill S.

Maine

Bangor	Brown, Edwin A.

Maryland

Baltimore	Legum, Isadore
Baltimore	Steinberg, Leon

Mississippi

Taylorsville	Ruffin, Charles H.

Nebraska

Columbus	Rucklos, Gordon H.
Elwood	Seberg, George H.
North Bend	Vlasak, Milo J.
Omaha	Breeze, Frederick A.
Sidney	Thompson, George H.

New Hampshire

Nashua	Panagoulis, Nicholas J.

New Jersey

Atlantic City	Stern, Mahlon
Camden	Lawnicki, Maksymilian A.
East Orange	Rosen, Sol
Irvington	Blumenfeld, Philip M.
Mendham	Messer, Isidore W.
Montclair	McAloon, Charles B.
Oaklyn	Harrington, Robert N.
Passaic	Elkind, Gerald B.
Paterson	Yakoubian, Arshag A.
Perth Amboy	Chmura, John P., Jr.
Plainfield	Duckstein, Jack
Swedesboro	Morrison, Bernard E.
Trenton	Kraut, Irving

New York

Auburn	Malone, William J., Jr.
Bronx	Berl, Jesse
Bronx	Cohen, Samuel C.
Bronx	Greenfield, Raymond A.
Bronx	Harmelin, William
Bronx	Isaacson, William
Bronx	Tammaro, Rosario J.
Brooklyn	Appelman, David H.
Brooklyn	Asnis, Saul T.
Brooklyn	Booth, Joseph E.
Brooklyn	Brustein, Abraham B.
Brooklyn	Caltabiano, Henry I.
Brooklyn	Catalano, Philip P.
Brooklyn	Chernoff, Elias H.
Brooklyn	Freitag, Irwin
Brooklyn	Goldstein, Milton
Brooklyn	Gorenkoff, Sidney
Brooklyn	Israel, Hyman
Brooklyn	Kramer, Sydney S.
Brooklyn	Marcus, Leonard
Brooklyn	Miller, Elliott A.
Brooklyn	Restivo, Anthony J.
Brooklyn	Rich, Irving E.
Brooklyn	Rubin, Samuel
Brooklyn	Ruggiero, Rocco C.
Brooklyn	Sheldon, Marvin P.
Brooklyn	Soloff, Harvey K.
Brooklyn	Stanco, Henry F.
Brooklyn	Thomas, Arthur I.
Buffalo	Wasson, William H.
Corona	Nigra, Mario P.
East Elmhurst	Rudolph, Samuel N.
Elmhurst	Sahlin, Paul N.
Flushing	Meany, John J.
Forest Hills	Stern, Clifford N.
Larchmont	Seelig, Alexander
Liverpool	Schamu, Carl G.
Long Island City	Ciafone, Frank
Long Island City	Lederman, Irving I.
New York	Bard, Eugene
New York	Beiser, David C.
New York	Beller, Walter
New York	Bisk, Frank

New York	Bloomfield, Howard K.
New York	Cohen, Abner L.
New York	Deutsch, Sidney
New York	di Iorio, Amerigo G.
New York	Eagle, Emanuel
New York	Fondiller, Howard J.
New York	Glaubinger, Raymond
New York	Goldberg, Samuel
New York	Handler, Allan A.
New York	Kral, Bernard P.
New York	Landy, Simon
New York	Levine, Theodore F.
New York	Manne, Edwin
New York	Offenbacher, Eric
New York	Rosenblatt, Louis G.
New York	Seife, Milton D.
New York	Stein, Matthew
New York	Waldmann, John R.
New York	Winkler, Harold P.
New York	Witmer, Samuel G.
New York	Yudkoff, Irving
New York	Zimet, John J.
New York	Zornberg, Edward D.
Patchogue	Warner, James R., Jr.
Plattsburg	Luria, Harold J.
Pleasant Valley	McDonald, Charles F.
Rochester	Brim, Samuel P.
Rochester	Norton, Donald H.
Schenectady	Gingras, Clarence E., Jr.
Staten Island	Pagano, Stephen C.
West Camp	Maxwell, Jeremiah M.
Yonkers	Woodrow, Louis J.

North Carolina

Hickory	Poovey, Auburn L.

Ohio

Akron	Likens, Basil E.
Akron	Parks, William A., Jr.
Cincinnati	Burns, Gordon L.
Cleveland	Horowitz, Edwin W.
Cleveland	Kaplow, Ben B.
Cleveland	Potylicki, Frank P.
Cleveland	Yalowich, Howard
Cleveland Hgts.	Lavigna, Daniel M.
Cleveland Hgts.	Pfersick, Charles M.
Columbus	Cass, Paul E.
Columbus	Forbes, Melvin L., III
Columbus	Wolfe, Rowland D., Jr.
Columbus	Wright, William T.
Dayton	Tannenbaum, Robert M.
Dayton	Weber, Albert R.
Geneva	Kauvar, Irving
Lowell	Young, Frank R.
Martins Ferry	Donovan, Richard W.
Pomeroy	Shumaker, Marsh E.
Rocky River	Ruppelt, Charles A.
Steubenville	Dodd, Joseph V.
Toledo	Shopneck, George
Urbana	Smith, Thomas C.
Wadsworth	Freeborn, James R.
Youngstown	Hodes, Phillip B.

Oklahoma

Oklahoma City	Whitton, Randel F.
Oklahoma City	Wykoff, James E.

Oregon

Portland	Madden, Edmund F.

Pennsylvania

Beaver	Wise, Donald G.
Berwick	Triani, Peter A.
Columbia	Wagley, Philip C.
Falls Church	Brown, James W., Jr.
Forest City	Burik, Nicholas A.
Greensburg	Leatherman, Theodore V.
Hellam	Leiphart, Mahlon P.
Kingston	Cahalan, John L.
Knox	Agnello, Joseph A.
McDonald	Wyke, William S.
McKeesport	Peterson, Clarence E.
Malvern	Yake, Everett H.
Meadville	Hogan, Robert G.
New Castle	Gilmore, Richard H.
New Castle	Masters, Anthony
Norristown	Ericsson, Joseph O.
Norristown	Martin, Bertram J.
Philadelphia	Blaker, Leon H.
Philadelphia	Brody, Milton
Philadelphia	Cacchio, Pasquale J.
Philadelphia	Cohen, Charles A.
Philadelphia	Ferris, Basil M.
Philadelphia	Fine, Harold N.
Philadelphia	Grossman, Benjamin
Philadelphia	Majcher, Edward J.
Philadelphia	Peifly, David G.
Philadelphia	Roach, Leo P.
Philadelphia	Rubin, David
Philadelphia	Rubin, Louis H.
Philadelphia	Thomas, Lawton C.
Philadelphia	Vivacqua, John J.
Philadelphia	Wasko, Stanley J.
Philadelphia	Weglarski, Thaddeus
Philadelphia	Zakrewski, Leo V.
Pittsburgh	Baradon, Emmanuel M.
Pittsburgh	Caputo, Louis
Pittsburgh	Dimmick, Charles E.
Pittsburgh	Merchant, William F.
Pittsburgh	Murray, George W.
Pittsburgh	Shiring, Edward M.
Prospect Park	Mendelzon, Nathan N.
Somerville	Nahigian, Edward S.
Tamaqua	Zigmant, William

Rhode Island

Cranston	Brown, Roger H.
Providence	Gershkoff, Aaron
Providence	Gorfine, Isadore S.
Providence	Levin, Milton

Tennessee

Jamestown	Mullinix, Eston E.
Memphis	Wadley, Caswell H., Jr.

Texas

Dallas	Roark, Judge F., Jr.
El Paso	Lippmann, Alexander H.
Ft. Worth	Hodges, Edward H., Jr.
Gladewater	Johnson, William A.
Keltys	Hooper, Hilton A.
Leonard	Blackburn, Johnny M.

Port Arthur	Painton, Mark J., Jr.
San Antonio	Rivero, Juan
Utah	
Ogden	Kirkham, Reed G.
Topaz	Tsukasaki, Masanobu G.
Virginia	
Fredericksburg	Embrey, John Y.
Hampton	Kolcum, Michael A.
Norfolk	Lott, Charles
Orange	Clark, Aubrey F.
Washington	
Seattle	McGuire, Gerald A.
Yakima	Doran, Arthur S.
West Virginia	
East Rainelle	Conley, James R.
Wellsburg	Zeit, Carl
Wheeling	Block, Ralph N.
Wisconsin	
Menomonie	Quilling, James F.
Milwaukee	Weber, Carl E.

LIST OF DENTAL OFFICERS

SEPARATED FROM NAVY DENTAL CORPS

THE following naval dental officers have been separated from service, according to lists received from the Navy Department. These lists are not complete. Other names will be published as soon as possible.

Alabama		
Anniston	Worsham, F. L., Jr.	Lieut.
Birmingham	Sherrill, Richard B.	Lieut.
Arizona		
Flagstaff	Goble, Gaylord G.	Lieut.
Arkansas		
Huntsville	Beeby, James W.	Lieut.
California		
Los Angeles	Renden, Hubert A.	Lieut.
Pasadena	Contino, Raymond M.	Lieut.
Canada		
Vancouver	Joiner, William M.	Lieut.
Colorado		
Denver	Rasmuson, Robert W.	Lieut.
Pueblo	Fimple, Frank B.	Lieut.
Connecticut		
Glenbrook	Ashcroft, Robert F.	Lieut.
New Haven	Gilbert, George W.	Lieut.
District of Columbia		
Washington	Kreager, John E.	Lieut.
Washington	Rowe, Abner T.	Lieut.
Florida		
Quincy	Gray, Charles H.	Lieut.
Georgia		
Brookhaven	Smith, Charles H.	Lieut.
Idaho		
Montpelier	Hess, Spencer W.	Lieut.
Illinois		
Chicago	Borello, Dominic A.	Lieut.
Chicago	Skupien, Norbert R.	Lieut.
Glenview	Strong, L. W., Jr.	Lt. Cmdr.
Indiana		
Franklin	Murphy, Harry L.	Lieut.
Gary	Cohn, Leo M.	Lieut.
Hammond	Sullivan, John E.	Lieut.
Huntington	Hohe, John W.	Lieut.
Iowa		
Charles City	Von Berg, John E.	Lieut.
Diagonal	Davenport, M. L.	Lieut.
Lakota	Smith, William R.	Lieut.
Kansas		
Pittsburg	Cheek, Davis W.	Lieut.
Kentucky		
Freeburn	Hagerman, Wade H.	Lieut.
Mt. Vernon	Henderson, J. D., Jr.	Lieut.
Maryland		
Chevy Chase	Callanan, John H.	Lieut.
Massachusetts		
Brighton	Wolfson, Daniel	Lt. Cmdr.
Somerville	Bianchi, Walter E.	Lieut.
Michigan		
Ann Arbor	Mathews, Robert A.	Lieut.
Detroit	Kaufman, Myron	Lieut.
Detroit	Ryding, Robert B.	Lieut.
Detroit	Stoler, Harry	Lieut.
Saginaw	Coates, Donald D.	Lieut.
Minnesota		
Hibbing	Albani, James	Lieut.

Missouri		
Freeman	Duensing, John D.	Lieut.
Kansas City	Helzberg, James M.	Lieut
Springfield	Bauer, Joseph L.	Lieut.
Nebraska		
Steinauer	Steinauer, Jerome J.	Lieut.
New Jersey		
East Orange	Stone, Samuel A.	Lieut.
Westwood	Wood, Thomas B.	Lieut.
New York		
Brooklyn	Greene, E. J.	Lt. Cmdr.
Brooklyn	Thomashow, Milton	Lieut.
Brooklyn	Zeh, William G.	Lieut.
Buffalo	McClure, Bruce G.	Lieut.
Cohoes	Blais, John S.	Lieut.
Hempstead	Margiotta, Joseph M.	Lieut.
Jamaica	Ball, Eugene R.	Lieut.
Livonia	Straub, Robert J.	Lieut.
Mt. Vernon	Hochberg, Joseph A.	Lieut.
Mt. Vernon	Nathan, Robert A.	Lieut.
New York	Marder, Philip	Lieut.
Pelham	Devine, Elbridge J.	Lieut.
Queens Village	O'Brien, George E.	Lieut.
Richmond Hill	Menichino, Ralph F.	Lieut.
Rochester	Bresloff, Jesse	Lieut.
Solvay	Black, Howard L.	Lieut.
North Caroline		
Burlington	Walker, Marvin E.	Lieut.
Mount Airy	George, Robert A.	Lieut.
North Dakota		
Mayville	Mix, James H.	Lieut.
Minto	Slominski, Robert M.	Lieut.
Ohio		
Cleveland	Doyle, Norman J.	Lt. Cmdr.
Columbus	Pontious, Paul M.	Lieut.
Defiance	Winkler, James H.	Lieut.
Wickliffe	Arcaro, Albert A.	Lieut.
Oregon		
Portland	Menashe, Victor I.	Lieut.
Pennsylvania		
Delta	Noerr, Paul L.	Lieut.
Larksville	Seygal, Joseph J.	Lieut.
Philadelphia	Bruhn, Harry R.	Lieut.
Philadelphia	Coper, Millard J.	Lieut.
Rhode Island		
Cranston	Gargani, G. M., Jr.	Lieut.
Providence	Berry, Joslin	Lieut.
Providence	Seigel, Jason C.	Lieut.
Washington		
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DEATHS

Andrews, Anthony J., Detroit; died May 9.

Bamborough, Thomas A., Owosso, Mich.; College of Dental Surgery, University of Michigan, 1903; died May 31; aged 70.

Banks, Thomas J., Cincinnati; College of Dentistry, Howard University, 1918; died May 7; aged 50.

Bartlett, Frederick I., Washington, D.C.; Dental Department, Columbia University, 1902; died May 27; aged 74.

Bates, Orren W., Kenmore, N.Y.; School of Dentistry, University of Buffalo, 1901; died June 6; aged 73.

Bayon, Joseph P., New Orleans; Baltimore College of Dental Surgery, 1890; died June 2; aged 78.

Benson, Joseph L., Independence, Mo.; died June 9.

Blagdon, Joseph M., Charleston, Mass.; Tufts College Dental School, 1905; died May 14; aged 68.

Blaisdell, A. Leo, Long Branch, N.J.; School of Dentistry, Temple University, 1905; died June 16; aged 64.

Bray, Winfield S., Indianapolis; School of Dentistry, Indiana University, 1916; died May 22; aged 67.

Canoyer, F. M., Brookfield, Mo.; Kansas City Dental College, 1903; died April 22; aged 71.

Cleveland, C. W., Brookfield, Mo.; School of Dentistry, Washington University, 1911; died May 6; aged 58.

Collins, John N., Belleville, Ill.; School of Dentistry, St. Louis University, 1919; died June 12; aged 50.

Courtney, Walter L., Paterson, N.J.; died June 10.

Currie, William S., Hyde Park, Vt.; New York College of Dentistry, 1896; died June 3; aged 71.

DeLacey, William P., Hot Springs, Ark.; Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania, 1889; died May 20; aged 79.

Devlin, Joseph C., Swampscott, Mass.; Dental Department, Baltimore Medical College, 1906; died June 7.

Eaton, Willie H., Pittsfield, N.H.; died in May; aged 69.

Evey, D. H., Monmouth, Ill.; Chicago College of Dental Surgery, Dental Department of Loyola University, 1890; died May 25; aged 84.

Feeney, Thomas A., New Britain, Conn.; Dental Department, Medico-Chirurgical College of Philadelphia, 1913; died May 19; aged 60.

Flavin, Charles J., Elkhart, Ind.; Dental School, Northwestern University, 1916; died June 17; aged 54.

Gardner, Edwin R., Seattle; College of Dentistry, University of Nebraska, 1916; died June 1; aged 52.

Gardner, Mark A., Northville, Mich.; Department of Dental Surgery, Detroit College of Medicine, 1895; died May 23; aged 77.

Gillham, Charles H., Independence, Mo.; Western Dental College, 1899; died June 14; aged 80.

Gilman, Leo, Brooklyn; New York College of Dentistry, 1914; died June 9; aged 56.

Hair, Antonio M., Jackson, Miss.; died in May.

Hanus, George, Chicago; died May 29; aged 45.

Harden, William W., Arlington, Va.; Southern Dental College, 1901; died May 27.

Hardy, Frank L., Midland, Mich.; College of Dental Surgery, University of Michigan, 1912; died June 11; aged 57.

Hill, C. L., Columbus, Indiana; School of Dentistry, Indiana University, 1900; died June 9; aged 70.

Hospers, John H., Chicago; Dental School, Northwestern University, 1904; died June 12; aged 67.

Intemann, John H., Union, N.J.; School of Dentistry, Temple University, 1915; died June 4; aged 52.

Jones, C. L., Altus, Okla.; died May 31; aged 54.

Kaiser, Oliver V., San Diego, Calif.; School of Dentistry, University of Pittsburgh, 1903; died June 5; aged 65.

Keeler, Walter F., Hempstead, N.Y.; School of Dental and Oral Surgery of Columbia University, 1924; died June 12.

Kent, Edwin N., Rockport, Mass.; Dental School, Harvard University, 1900; died June 8; aged 72.

Laskin, Jacob E., Cleveland; School of Dentistry, Western Reserve University, 1924; died May 25; aged 45.

LeCron, Robert, London, England; died June 5.

Looper, S. W., Dalton, Ga.; died April 28, aged 64.

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THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION
222 East Superior Street, Chicago 11, Illinois
WHItehall 6730 Cable Address: ADAECO

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ANNOUNCEMENTS

MEETINGS OF STATE SOCIETIES

State	Date	Place	Secretary	Address
Alabama	April 15–17, 1948	Birmingham	G. W. Matthews	1922 Tenth Ave., S., Birmingham 5
Arizona			B. K. Litt	68 E. Congress, Tucson
Arkansas			I. M. Sternberg	Merchants Bank Bldg., Ft. Smith
California			L. E. Linehan	450 Sutter St., San Francisco
S. California	Sept. 15–17	Los Angeles	M. E. Ralston	903 Crenshaw Blvd., Los Angeles 6
Colorado			R. A. Downs	724 Republic Bldg., Denver 2
Connecticut			E. S. Arnold	37 Linnard Rd., W. Hartford
Delaware			J. Krygier	309 S. State St., Dover
D. of Columbia			K. H. Wood	202-1835 Eye St., N.W., Washington
Florida	Nov. 10–12	St. Petersburg	J. I. Todd	433 St. James Bldg., Jacksonville
Georgia	Oct. 19–22	Atlanta	J. M. Heard, Jr.	Persons Bldg., Macon
Hawaii	October 30–November 1	Honolulu	J. H. Dawe	P. O. Box 39, Honolulu 10
Idaho			R. Sutcliff	Twin Falls
Illinois	Oct. 9–11	Peoria	P. W. Clopper	623 Jefferson Bldg., Peoria 2
Indiana			E. E. Ewbank	Kingman
Iowa			A. N. Humiston	417 Higley Bldg., Cedar Rapids
Kansas			F. A. Richmond	1008 Huron Bldg., Kansas City
Kentucky			J. L. Walker	640 Barbee Way, S., Louisville
Louisiana	April 8–10, 1948	Alexandria	J. S. Bernhard	407 Medical Arts Bldg., Shreveport
Maine			A. H. Garcelon	State House, Augusta
Maryland			J. H. Shackelford	706 Baltimore Life Bldg., Baltimore 1
Massachusetts	May 3–6, 1948	Boston	P. E. Adams	227 Commonwealth Ave. Boston 16
Michigan			F. Wertheimer	Michigan Department of Health, Lansing
Minnesota	Feb. 23–25, 1948	St. Paul	L. M. Cruttenden	Lowry Medical Arts Bldg., St. Paul
Mississippi			F. C. Sneed	Osyka
Missouri			C. W. Digges	Exchange National Bank Bldg., Columbia
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Nebraska			F. A. Pierson	Federal Securities Bldg., Lincoln
Nevada			L. G. Jacob	505 Chestnut St., Reno
New Hampshire			F. E. Williams	814 Elm St., Manchester
New Jersey	April 20–23, 1948	Atlantic City	J. G. Carr	407 Cooper St., Camden
New Mexico			J. S. Eilar	First National Bank Bldg., Albuquerque
New York	May 10–13, 1948	Syracuse	C. A. Wilkie	1 Hanson Place, Brooklyn
North Carolina	April 26–28, 1948	Asheville	C. W. Sanders	Benson
North Dakota			K. G. Allen	Fargo
Ohio	Nov. 9–12	Cleveland	E. G. Jones	185 E. State St., Columbus
Oklahoma			E. W. Wise	Medical Arts Bldg., Tulsa
Oregon			W. H. Hurley	922 Selling Bldg., Portland 5
Panama Canal Z.			T. W. Cagle	Box 243, Cocoli
Pennsylvania			E. R. Aston	421 Market St., Kingston
Philippine I.			G. A. Carreon	9 Broadway, Third St., N. Manila
Puerto Rico			R. Miranda	Box 747, Rio Piedras
Rhode Island			S. Ozarin	172 Tames St., Newport
South Carolina			J. R. Owings	Greenville
South Dakota	May 9–11, 1948	Sioux Falls	E. W. Elmen	Sioux Falls
Tennessee	May 24–27, 1948	Memphis	E. J. Justis	Exchange Bldg., Memphis
Texas	April 12–15, 1948	Fort Worth	W. Ogle	313 Medical Arts Bldg., Dallas
Utah			S. Ballinger	1001 Tribune-Telegram Bldg., Salt Lake City
Vermont			J. A. Larrow	Middlebury
Virginia			J. E. John	804 Medical Arts Bldg., Roanoke
Washington			F. J. Dingler	1502 Medical & Dental Bldg., Seattle 1
West Virginia			C. J. Gavelda	Clarksburg
Wisconsin	March 30–April 1, 1948	Milwaukee	R. A. Mason	964 N. 27th St., Milwaukee
Wyoming			J. D. McNiff	208 Grand Ave., Laramie

MEETINGS OF STATE BOARDS OF DENTAL EXAMINERS

State	Date	Place	Secretary	Address
Hawaii	August 25–30	Honolulu	P. H. Wilson	75 Young Bldg., Honolulu
Iowa	October 3–9	Iowa City	H. G. Bolks	923 Badgerow Bldg., Sioux City 9
Kentucky	Sept. 22–25	Louisville	R. I. Todd	Western Union Bldg., Richmond

OTHER MEETINGS

Name	Date	City	Secy. or Chm.	Address
American Academy of Applied Nutrition, Twelfth Annual Meeting	Oct. 4–5	Del Mar, Calif.	A. G. James Secy.	409 N. Camden Drive, Beverly Hills, Calif.
American Academy of Oral Pathology	Aug. 3	Boston	J. L. Bernier Secy.	Lt. Col., Army Medical Museum, Washington, D. C.
American Academy of Periodontology, Twenty-Ninth Annual Meeting	July 31–Aug. 2	Boston	C. E. Chamberlain Secy.	633 Jefferson St., Peoria, Ill.
American Academy of Plastic Research in Dentistry	Aug. 3	Boston	S. W. Cotter Secy.	11059 S. Hale Ave., Chicago
American Anti-Arthritis Association	Oct. 4–5	Del Mar, Calif.	R. T. Pottenger Secy.	Monrovia, Calif.
American Association of Dental Editors	Aug. 2	Boston	O. W. Brandhorst Secy.	4952 Maryland Ave., St. Louis
American Association of Endodontists	Aug. 2–3	Boston	T. J. Hill Secy.	2085 Adelbert Rd., Cleveland
American Association of Dental Examiners	Aug. 2–3	Boston	R. P. Thomas Secy.	Francis Bldg., Louisville, Ky.
American Association of Public Health Dentists	Aug. 2–4	Boston	E. Taylor Secy.	State Board of Health, Austin, Texas
American Association of Women Dentists	Aug. 3	Boston	M. K. G. Robinson Secy.	4906 Walnut St., Philadelphia
American Board of Oral Surgery	Nov. 7–8*	Chicago	L. M. FitzGerald Secy.	718 Roshek Bldg., Dubuque, Iowa
American College of Dentists	Aug. 2	Boston	O. W. Brandhorst Secy.	4952 Maryland Ave., St. Louis
American Dental Assistants Association	Aug. 4–7	Boston	A. M. Ferguson Secy.	709 Centre St., Jamaica Plain, Mass.
American Dental Association	Aug. 4–8	Boston	H. Hillenbrand Secy.	222 E. Superior St., Chicago
American Dental Hygienists' Association	Aug. 4–8	Boston	A. R. Fisk Secy.	1704 N. Troy St., Arlington, Va.
American Dental Society of Europe	July 27–30, 1948	London	K. C. Campbell Secy.	88 Portland Place, London, W. 1.
American Public Health Association, Seventy-Fifth Annual Meeting	Oct. 6	Atlantic City, N. J.	R. M. Atwater Secy.	1790 Broadway, New York 19
American Society for the Advancement of General Anesthesia in Dentistry	Oct. 27	New York	M. H. Feldman Secy.	730 Fifth Ave., New York
American Society of Dentistry for Children	Aug. 2–4	Boston	R. W. Erwin, Jr. Secy.	613 Corbett Bldg., Portland, Ore.
American Society of Oral Surgeons, Twenty-Ninth Annual Meeting	July 31–Aug. 2	Boston	H. Bear Secy.	1112 E. Clay St., Richmond 19, Va.
National Dental Association, Thirty-Fourth Annual Meeting	Aug. 11–15	Detroit	J. A. Jackson Secy.	Box 197, Charlottesville, Va.
Federacion Odontologica Latino Americana, Fifth Congress	Oct. 3	Buenos Aires	D. M. Cohen Secy.	Calle Junin No. 959, Buenos Aires, Argentina
Annual Seminar for the Study and Practice of Dental Medicine	Oct. 19–24	Yosemite Valley, Calif.	M. G. Lewis Secy.	1618 Ninth Ave., San Francisco 22
Montreal Dental Club, Twenty-Third Annual Fall Clinic	Oct. 22–24	Montreal	M. L. Donigan Director	Drummond Medical Bldg., 1414 Drummond St., Montreal 2, Canada
Academy of Denture Prosthetics	July 28–Aug. 3	Boston	I. L. Furnas Secy.	928 Silverado St., La Jolla, Calif.

*Examinations for certification.

OTHER MEETINGS—(Continued)

Name	Date	City	Secy. or Chm.	Address
International Dental Congress, Tenth Annual Meeting	Aug. 4–8	Boston	C. F. L. Nord Secy.	The Hague, Holland
New England Dental Society	Nov. 5–6	Boston	J. F. Barton Secy.	43 Farmington Ave., Hartford 5, Conn.
Tufts College Dental School, Class of 1922 Reunion	Aug. 5	Boston	N. Becker	100 Boylston St., Boston 16
University of Buffalo, School of Dentistry Alumni Association, Forty-Fifth Annual Meeting	Oct. 14–16	Buffalo	E. L. Ruffing Chm. Publicity	233 W. Ferry St., Buffalo 13
Northeastern Society of Orthodontists	Nov. 10–11	New York	O. Jacobson Secy.	35 W. 81st St., New York
University of Oregon Annual Dental School Alumni Meeting	Sept. 25–27	Portland	R. B. Keller Secy.	Medical-Dental Bldg., Portland, Ore.
Odontological Society of Western Pennsylvania, Sixty-Sixth Annual Meeting	Oct. 28–30	Pittsburgh	W. E. Craig Secy.	Jenkins Bldg., Pittsburgh 22
Wisconsin Dental Economic Study Club	Aug. 29–30	Madison	M. M. Tuttle Secy.	20 N. Carroll St., Madison 3, Wis.

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University of Illinois, Research and Educational Hospital, Chicago. Supervisor of Hospital Dental Services, Maury Massler, University of Illinois, 808 S. Wood St., Chicago 12.

University of Oregon, Medical School and Hospitals, Portland. Administrator, Charles N. Holman, 3181 S. W. Marquan Hill Road. Portland.

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